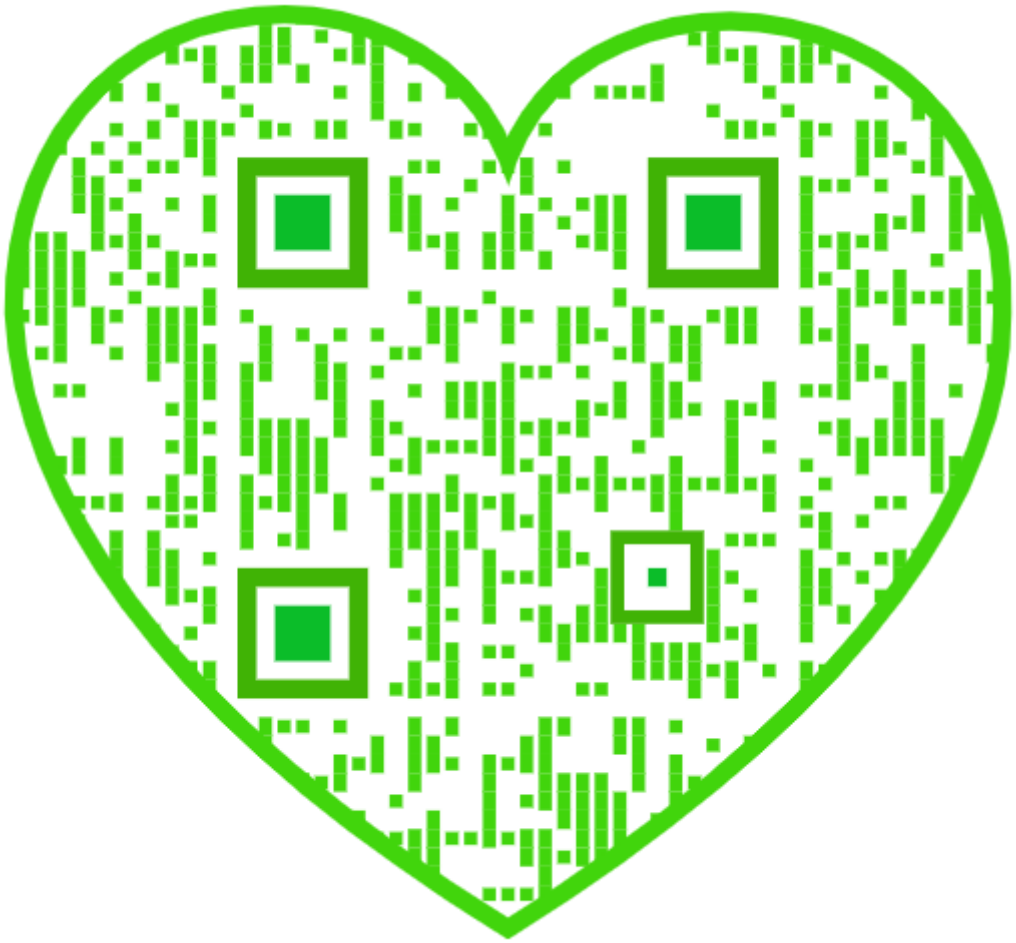
STOVES AND FURNACES

JANNEY, SEMPLE, HILL & CO.
MINNEAPOLIS



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Stoves and Furnaces

Fall and Winter

1934 -:- 1935

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JANNEY, SEMPLE, HILL & CO.
MINNEAPOLIS, MINNESOTA

This catalog is divided into three sections as follows:

Coal and Wood Section - - -	Pages 3 to 191
Gas Section - - - - - -	Pages 193 to 240
Liquid Fuel Section - - - -	Pages 242 to 290

At the start of each section you will find a general index, giving the pages on which all major items are to be found.

We trust that by using these Sectional Indexes you will be able to locate any specific item easily and quickly. In case you do not find the item you want in this catalog, please write us for full information.

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STOVE INFORMATION

HEATING APPARATUS AND DRAFTS.

By N. G. Neere, A. M., M. E.

It requires no technical education to decide in one's mind that fuel enclosed in heating apparatus will not burn satisfactorily without draft, and that there is no draft inherent in a stove or furnace.

But every dealer who has ever sold a stove or furnace has been annoyed by complaints of customers that the stove did not draw or that the draft of the furnace was not satisfactory.

It is hard to convince the average man that the heating apparatus for which he has just paid (or promised to pay) in good hard dollars, is not almost human, but as a matter of fact stoves have no respiratory organs and the fuel they contain will burn satisfactorily only when there is a satisfactory draft.

The man who makes or sells the stove or furnace is not responsible for the architecture of the house in which it is set up, and therefore cannot be held responsible for the working of the apparatus.

Some dealers, even some who have been selling heating apparatus for years, unfortunately resolve in a hurry at times, when they receive complaints about a stove, range or furnace which they have sold, that the manufacturer is to blame, that he is marketing an unsatisfactory article. Their minds are upset, their digestion disturbed and their tempers soured thereby.

If such dealers would reflect for only a moment they would recognize the fact that the heating apparatus itself is not all of the plant required to do the work.

HOW ABOUT THE CHIMNEY?

A stove or furnace cannot operate by itself. A chimney is among the necessary accessories, and the chimney is needed to create draft. Between the pipe collar of the stove and the top of the chimney there may be trouble that prevents the heating device itself from working satisfactorily, but in every case of trouble with a stove or furnace the dealer and the user must remember that the pipe and the chimney have other necessary functions to fulfill and if they do not work well trouble may ensue.

Nothing is more ridiculous than for a man to complain to the manufacturer of a stove, range or furnace that it will not "draw," unless he is absolutely satisfied that the pipe and chimney are in proper shape and condition to create draft. Just as a fish cannot live on dry land, just as a man cannot live without air, so a stove or furnace cannot do its work properly without a plentiful supply of oxygen, fed to it in the cold air current that accompanies a good draft.

Manufacturers of heating apparatus in the United States nowadays are not turning out stoves and furnaces that will not work, because they are not fools or villains. The competition among them is so keen and the conditions are such that defective goods are invariably condemned before they leave the factory.

If the chimney to which the stove or furnace is set up has been properly constructed and if the pipes leading to it are properly adjusted, the stove or furnace will work and "draw," to an absolute certainty, unless an accident has happened to it in transit from the factory.

THE SCIENCE OF DRAFT.

The science of draft, like most of the domestic sciences, is comparatively a new study, but architects and engineers are giving to it more and more attention every day.

Heating and ventilation of buildings, large and small, is gradually becoming an exact science; experience is teaching us right along and the faults hitherto ascribed to the stove or to the furnace are now properly placed where they belong and are ascribed to the CHIMNEY.

It would be a good thing for the purchaser if manufacturers and dealers could furnish and guarantee a DRAFT with every stove and furnace, but they have to deal with a condition and not a theory, with hard facts and brick walls.

Draft implies and requires a chimney and no manufacturer of house-heating devices, as yet, has had the hardihood to attempt to furnish a chimney with his goods. The best he can do is to point out to his customer how a good draft may be secured.

There are certain rules governing the construction of chimneys and the creation of drafts that cannot be too well known. The axiom is as follows: "NO AIR SHOULD PASS THROUGH THE CHIMNEY AT ANY POINT THAT HAS NOT FIRST PASSED THE FIRE, UNLESS IT IS USED TO CHECK THE DRAFT."

Bearing this axiom in mind, it is easy to see how the draft may become defective and the heating device fail to work satisfactorily by reason of defects in the chimney. Such defects are often easily remedied, and many of them are so common that every salesman of heating devices should be acquainted with their nature and the proper remedy for them. Some of these devices are described and prescribed for below.

TO CURE DEFECTIVE DRAFT.

Case No. 1. When the base of the chimney contains a large, old-fashioned, open fireplace, it often fails to furnish a satisfactory draft. The remedy is to fill up the flue with cement to within six inches of the pipe hole or to cut off the flue with a sheet iron plate, covering the plate with several inches of cement, so as to make it air-tight.

Case No. 2. When the chimney has been constructed with a flue extending downward to the floor or into the cellar, the cold air below the pipe-hole chills the upper part of the chimney, makes the air heavy and hinders the rise of the smoke. Filling up the flue with cement to a point six inches below the pipe-hole or cutting the flue off with an air-tight sheet iron plate will remedy the trouble and create a draft.

Case No. 3. When the chimney of a kitchen is lower than the main part of the house, the wind circling over the house falls upon the kitchen chimney and beats down the smoke arising therein. In such a case the remedy is to increase the height of the chimney or add a smokestack to its top, at least equal in height to that of the main building.

Case No. 4. When a building or a tree is contiguous to and higher than the chimney, the wind passing over and down from either taller object has the same effect as in the last case and hinders a proper draft.

Case No. 5. When there are several connections with one chimney, the problem of draft becomes somewhat complicated, but the general governing principle is that all the openings into the flue, except the one in use, should be tightly closed. A close, thoughtful, observance of this general rule will usually result in a cure of draft trouble.

Case No. 6. In old chimneys leaks of cold air are frequent through the mortar having dropped out from between the bricks. In such cases, of course, the remedy is obvious. An air-tight filling of plaster is imperative.

Case No. 7. In building chimneys, mortar sometimes drops and lodges in such a manner as to partly obstruct the flue, thereby decreasing the draft. In this case a heavy weight may be used and let down by a rope from the top of the chimney. It will dislodge the mortar and provide the draft.

POINTERS FOR CHIMNEY BUILDERS.

It must always be remembered that a new or green chimney never creates a perfect draft, several weeks being sometimes required to dry the chimney thoroughly, so that it works properly.

It can always be remembered with advantage also that a chimney can hardly be too high. It should be higher than any other part of the house and higher than any other contiguous object.

Chimneys should be straight by preference and always smooth on the inside.

It is undesirable to combine the uses of heating and ventilation in one chimney. A smoke flue should not be used for ventilating purposes.

Just as a chain is only as strong as its weakest link, so the effective area of a chimney is only as great as the area at the smallest point.

Outside chimneys should be built thick enough to prevent the chilling of the interior, with its consequent diminution of draft.

Rust Remover Formula.

One of the disagreeable features of the STOVE business is the tendency of stoves to rust when they are subjected to adverse climatic conditions. For that reason we publish herewith a formula that will not only restore the original appearance of the sheet steel bodies and castings as well as the luster to the polished tops but will also serve as a rust preventative.

Apply carbon oil (black crude oil) judiciously with soft cloth or waste, and thoroughly wipe off after having done so. The stoves should then be coated with a wash in accordance with the following formula:

Take one (1) ounce of pure bees-wax, and (after chipping it up fine) place it in a quart bottle, filled with naphtha or benzine. Cork tightly, and after allowing it to stand 24 hours or more, draw off the clear solution with care into another bottle, and retain for use. After your stove, or any article you wish to preserve from rusting or tarnishing is made up, take a small, soft sponge, and coat the article entirely over as lightly as possible with this solution, and then allow the article so coated to stand for 30 minutes, or more, so as to give time for the benzine to evaporate, after which polish with soft paper, clean waste or chamois skin. When the article is intended to be stored or shipped any distance, do not polish until wanted for use, then again coat with the wash and polish as above directed. It will greatly lessen the danger from damage in transit on sheet iron stoves or any fine polished metal surfaces.

HOW TO TEST YOUR CHIMNEY

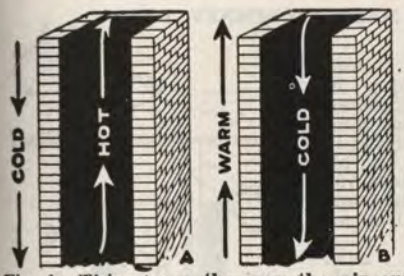


Fig. 1—This shows the way the air currents will run in your chimney.

The draft in a chimney is created when the air inside the chimney is hotter than the air on the outside. Since hot air is lighter than cold air, when the air inside the chimney is heated it will rise and create a strong upward current. The hotter the air inside the chimney can be kept the stronger the draft will become. Fig. 1 clearly shows the air currents when air inside the flue is either colder or warmer than outside air.

No air should enter the chimney which has not first passed through the fire of the stove.

TESTING YOUR CHIMNEY

If your chimney is perfectly straight take a small mirror and insert it in the stove pipe hole so that you can look up the chimney. If your chimney is in proper condition it should be clean and smooth and clear of any obstructions.

If your chimney is not straight and you cannot see to the top by using a mirror, light a newspaper just inside the chimney hole. The heat from the burning paper should cause an upward draft in the chimney. If this does not occur, or if the charred paper is not drawn up the chimney it is evidence of a very poor draft. If your chimney is in good condition every bit of charred paper should be drawn up the flue of the chimney.

If, after the burning test bits of paper drop down it may be due to another opening in the chimney. If this is the case, close up all of the other openings in the chimney. If this is the case, close up all of the other openings either upstairs or downstairs. Make sure that all other openings in the chimney are closed. Then, if your flue hole still does not furnish a good draft, the trouble is probably due to an obstruction in the chimney. The trouble may also be because the chimney is not high enough and outside air currents are forcing the draft back down into the chimney.

ig. 4—This is often the cause of a poor draft.

If your chimney is not giving sufficient draft and you cannot discover the cause, it may be due to an obstruction somewhere in the chimney which you have not been able to locate.

To remove an obstruction take a brick or a heavy piece of iron and attach it to a rope. Be sure that the rope is long enough to reach from the top of the chimney to a point low enough to be below all possible obstructions. Then drop the weight by the rope from the top of the chimney. Pull the weight up and down until you have loosened all obstructions. After this is done remove the dirt and fallen obstructions through the clean-out hole. Look for this hole at the bottom of the chimney in the basement or in another room.

Before you use this method be sure to remove all pieces of stove pipe which extend into the chimney and which might be broken if they are left in place.

CAUSE FOR OBSTRUCTIONS

Fig. 5—Soot deposits may in time stop the draft

Under the influence of time and weather it is not uncommon for bricks to become loose near the top of the chimney. A heavy windstorm will sometimes knock them down and occasionally they become lodged near the middle of the chimney, as shown in Figure 4.

Sometimes during the late spring and early summer birds will build their nests in the chimney if it is not in use. Soot will deposit at such spots and make large draft obstructions.

Some chimneys are built with an offset to pass a floor joist or a beam that was used in building the house. An offset will gather soot, and in time may seriously hinder the draft. (See Fig. 5.) You may remove soot from such a place in the same manner as already described.

INSPECT OUTSIDE CHIMNEY

ig. 6—All air holes ould be tightly plastered up

If your draft is not as strong as it should be it is sometimes necessary to inspect the part of the chimney which is above the house to see if it is in good condition.

Frequently the chimney will appear to be in good condition when seen from the ground, but closer examination will reveal openings where bricks are loose and mortar has fallen out, allowing outside air to pass into the chimney. Such places should be plastered up tight to secure perfect draft.

HOW TO CLOSE A FIREPLACE

Fig. 7—This is the correct way to close a fireplace.

If you have an open fireplace which connects to the same chimney as your stove it should be closed in the following manner. Have a piece of iron or steel cut to the proper size to fit snugly into the throat of the fireplace. Then place it in position and support it underneath as shown in Fig. 7. Pour sand through the chimney hole until the sheet iron is covered to a depth of about six inches. If the fireplace has a damper and you are sure it fits tightly this method is unnecessary.

HOW TO CONNECT STOVE PIPE

When putting your stove pipe into place, use nothing but the size of pipe specified for your stove.

Be sure that the joint of pipe connecting to a pipe elbow does not project too far in and reduce the draft. This is clearly shown in Fig. 8. If possible, place your stove where only one elbow is necessary.

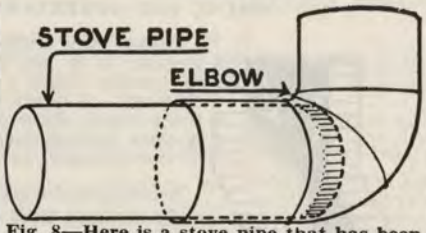


Fig. 8—Here is a stove pipe that has been placed too far inside the pipe elbow. This will hinder the draft. Always be careful to join each section of pipe tightly to the next one.

The horizontal section of pipe that extends from the elbow to the chimney should rise toward the chimney one-half inch or more for each length of pipe. This incline will improve the draft.

Before setting up your stove make sure that your chimney will furnish a good draft. If there is a poor draft it will be impossible for your stove or any other stove to operate properly.

PLACING PIPE IN CHIMNEY

Do not fit the pipe into a hole cut in the fireplace. The pipe should enter the chimney proper about 14 inches below the ceiling. A gooseneck stove pipe or one that requires several elbows will give a weak draft. Never allow a pipe to slant downward before entering the chimney.

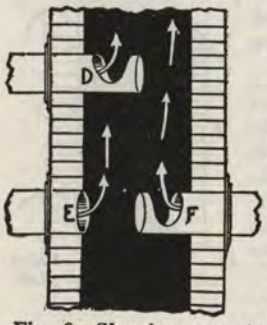


Fig. 9—Showing way to place pipe in chimney.

The end of the pipe should be just about flush with the inner wall of the chimney. Measure the width of the brick, mark this distance on the end of the pipe and push it up to this mark. (See "E", Fig. 9).

However, if two stove pipes enter the same chimney opposite each other it is necessary to project one of the pipes beyond the side, as shown in Fig. 9. The projected pipe must have a "V" or hole cut in the top and the end stopped or blanketed off as shown by "E" and "F", or one above the other, as shown by "D" and "E". When two pipes enter the same chimney it is best to have one pipe at least 8 or 10 inches above the other, as shown by "D" and "E".

In case a pipe enters the chimney from the furnace, or a stove in the basement and there is no fire in them, see that the damper in the smoke pipe is closed and that the feed door, the ash pit door and the draft slides are tightly closed.

MAKING A TOOTHPICK JOINT

If your chimney ends only a short distance below the point where the stove pipe enters, it will be necessary to make a toothpick joint. Simply cut off the end of the pipe at a 45 degree slant, as shown in Fig. 10. This will prevent the eddy that would form at the bottom of the chimney.

If there are other flue holes in use in the basement or below the hole where you plan to connect the stove it is also advisable to make a toothpick joint. This toothpick joint will prevent other flue hole drafts from interfering with the draft of this pipe.

If the chimney ends a short distance below the stove pipe hole, ashes and soot will often accumulate until the hole is stopped up. Remove the ashes from this point regularly.

Fig. 10—If the chimney ends just below the stove pipe, make a toothpick joint

HOW TO MAKE A CHIMNEY TOP

If your chimney is located where air currents may be forced down into the chimney, it will be wise to make a chimney top. The top illustrated in Fig. 3 is one of the best and also one of the cheapest tops you could make. It should be made of medium heavy galvanized iron so it will not rust.

The top shown in Fig. 3 must be fastened to a metal stock. Rivet to the upper outside edge of the stack a flaring hood (G), and to the inside of the stack four strap iron supports (H). On top of these supports rivet a perfectly flat deflecting plate (I) which completes the hood. This hood does not hinder the draft and it prevents the wind from blowing down into the chimney.

A conical top (J) may be put above the plate that is perfectly flat to throw off water. The common hood that has an inverted hollow surface hinders draft.

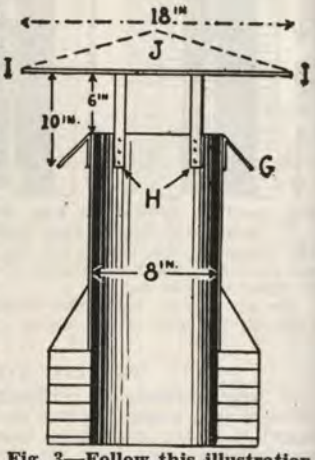


Fig. 3—Follow this illustration closely when making a new top.

HOW TO EXTEND YOUR CHIMNEY

If your chimney is not high enough to create a good draft you may extend it with brick and mortar, with tile, or with a stack made of galvanized iron or sheet iron. The extended stock should not be less than eight inches in diameter and must fit perfectly tight so that no air can enter at the point where it joins the chimney.

A chimney on a house is never too high, but it may be too large for the ordinary stove. The best sized flue is about nine inches square. Chimneys built on the outside of the house should be at least eight inches thick to prevent chilling the flue space.

KEEP THE CLEANOUT HOLE CLOSED

There is usually an opening near the bottom of the chimney through which the chimney is cleaned. Look for this hole in the basement or in the bottom of the chimney in another room. This hole must be kept closed. If the cleanout hole is left open you will have serious draft trouble.

Go through the entire house and make sure that there are no empty stove pipe holes. Each hole should be tightly closed with a flue stop. The smallest opening will hinder your draft.

If your stove is not working properly and you are using good fuel you can prove that the trouble is in the chimney by making an outdoor test. Any stove of ours will operate in the open air when three joints of stove pipe are used for a chimney.

SANICO

America's most beautiful RANGE

★ ★ ★

Every woman is entitled to a beautiful range. No longer need her kitchen be shrouded by the dull, uninteresting, colorless appearance of a worn-out ungraceful range. The modern range is now a thing of genuine beauty---rich in happy colors that bring cheer to the hours that women so generously spend in their kitchens.

The New Sanico is truly America's most beautiful range. You will be proud to own one of these handsome thoroughbreds. It makes the kitchen a pleasant, livable room---a place where even guests can be welcomed without apology.

a beauty and a joy forever!

MODERNE SANICO

In building the new Moderne range, Sanico designers have been careful to retain the distinctive lines, which have been characteristic of Sanico ranges for a number of years. The Sanico design, incidentally, is probably the most popular and attractive in the coal and wood range industry, it having been copied and imitated to a surprising extent. While it is true that appearance does not affect the servic rendered by a range, it does have a very important bearing on sales, and Sanico dealers have a very marked advantage over their competition in this regard.

The Moderne Sanico incorporates many new features which will increase the service rendered and the satisfaction enjoyed by Sanico users. We call your particular attention to the clever improvement in the construction of the reservoir top. Most "Console" or "cabinet ranges have very narrow reservoirs and it is almost impossible to use a dipper of any capacity because the reservoir covers are so small. The reservoir top on Modern Sanico not only overcomes this difficulty, but also makes it easy and practical for the user to fill the reservoir with a pail without running the risk of spilling water on the floor or on the stove itself.

The reservoir tank of the Moderne Sanico can be easily lifted out leaving a large compartment which is very desirable as a warming oven. Even when the reservoir tank is in place, there is a space beneath it which makes a desirable warming oven or storage compartment. Because of the small difference in price between a range with reservoir and without, it is not necessary for dealers to carry both styles and most of these ranges are shipped out with a reservoir tank which can easily be removed if a stove without reservoir is desired.

Another new feature, which is not apparent to the average purchaser but which will greatly improve the baking qualities of the range under unfavorable conditions, is the new style flue bunker used on the Modern Sanico. This flue bunker, covering the entire back of the oven, greatly increases the heat transfer area between flues and oven and decreases draft resistance to a minimum.

The general body construction of this range is the same as on the regular Sanico range, the body walls and bottom being made of 16 and 18 gauge Armco Iron, enameled both sides and insulated throughout. The front of the range is of cast iron construction with heavy asbestos board and cast iron linings. The oven sides, top and back are of 16 gauge steel welded together into one piece, thereby eliminating all puttied joints. The bottom is also made in one piece of heavy cast iron which eliminates all possibility of warpage and assures an evenly heated oven. The oven door is supported in the same way as other Sanico models and this construction is deserving of special mention at this time, especially in view of the fact that it has proven so superior to other methods that many other manufacturers are now copying it.

The regular cooking top equipment is four lids and one French plate, but ranges may be supplied with only two lids and two French plates on special order and at no extra cost.

The construction of the fire box, grates and other parts is the same as used in Sanico ranges for years with such excellent satisfaction.

Specifications of Moderne Ranges

	34-83 & 34-84 Series	34-73 & 34-74 Series
Oven, inches	20x21x12½	18x20x12½
Cooking Top, inches	26½x47	25x42
Reservoir Capacity, Quarts	28	22
Reservoir Opening, inches	7½x9	6½x9
Height to Cooking Top, inches	31	31
Height overall, shelf, inches	53½	52½
Shipping Weight, pounds	575	475

Ovens—16 gauge welded one piece—full enameled Cast Bottom—Black enameled.

Cooking Top—Polished case iron—nickeled front rail.

Reservoir Top—Satin nickel finish.

Reservoir Tank—Tinned copper—Removable.

Colors—Sanico Tan & Ivory—Sanico Green & Ivory.

MODERNE SANICO

Oven Size 18x20 inches

IVORY & GREEN	IVORY TU-TONE
No. 34-74RS With Reservoir and High Shelf Each $130.00	**No. 34-73RS** With Reservoir & High Shelf Each $130.00
‡No. 34-74SS Square Style with High Shelf Each $127.00	**‡No. 34-73SS** Square Style with High Shelf Each $127.00
‡No. 34-74RC With Reservoir & High Closet Each $142.00	**‡No. 34-73RC** With Reservoir & High Closet Each $142.00
‡No. 34-74SC Square Style with High Closet Each $138.00	**‡No. 34-73SC** Square Style with High Closet Each $138.00

Oven Size 20x21 inches

IVORY AND GREEN	IVORY TU-TONE
No. 34-84RS With Reservoir & High Shelf Each $150.00	**No. 34-83RS** With Reservoir & High Shelf Each $150.00
‡No. 34-84SS Square Style with High Shelf Each $147.00	**‡No. 34-83SS** Square Style with High Shelf Each $147.00
‡No. 34-84RC With Reservoir & High Closet Each $164.00	**‡No. 34-83RC** With Reservoir & High Closet Each $164.00
‡No. 34-84SC Square Style with High Closet Each $161.00	**‡No. 34-83SC** Square Style with High Closet Each $161.00

‡There is so little difference in cost of these ranges without reservoir and so few are sold with high closets that these models are not regularly carried in tock. They can be supplied on special order only, F. O. B. Shakopee.

COAL AND WOOD RANGES

SANICO

MODELS: NO. 31-23 and 31-24

Sanico Ranges, long famous for their beauty and graceful lines, have been designed to give the maximum in faithful, trouble-free service. The No. 31-23 and 31-24 models are built on the same basic foundation which has resulted in the Sanico reputation for supreme quality and they also include many new features. Innumerable improvements to enhance still further Sanico's reputation for even heat distribution and uniform and baking results, have been incorporated.

No more effort is required to clean the Sanico than to wipe a dish, since all sections (excepting cooking top, firebox castings and the nickeled door frames) are surfaced with porcelain enamel. Rust and corrosion are impossible. All sheet metal parts are made of Armco Ingot Iron, the purest commercial product obtainable. The Sanico cooking top is highly polished before being assembled; then a coat of rust-resisting liquid is applied for protection until the range is used.

BODY

The outer body walls and bottom are made of 16 and 18 gauge Armco Iron, enameled both sides and insulated throughout. The front proper is cast in two sections, easily assembled and each piece easily removed for replacement. All bolts are concealed; but readily accessible. Cast iron plates are used as linings and heavy asbestos board insulates the heat within the body. All parts of the body are easily replaced in case of damage.

HIGH CLOSET

The high closet is of extremely attractive design and made with sturdy cast iron drop doors, with concealed hinges. The brackets, enameled both inside and out, are well proportioned although of heavy cast iron. The splasher back is of 18 gauge iron and free from dirt-catching seams. The inside of warming closet is enameled in color to match balance of range.

RESERVOIR

The reservoir has been decreased in width and increased in height to give 15 or 20 square inches additional contact with the range body. Its capacity has been increased to 10½ gallons. The sides and bottom are made of heavier copper and a harder solder is applied to lessen danger of leaks from overheated empty reservoirs. Reservoir may be detached and end shelf substituted to make an attractive square type range.

WATER FRONT

An efficient water front that takes the place of the left and rear linings can be furnished at a reasonable extra cost. This front does not detract from the efficiency of the fire box, although cored to deliver a large volume of heated water. Holes in rear end are tapped for pipe connections and all fronts are tested under a pressure of 200 pounds.

OVEN

One piece of 16 gauge iron flanged on all edges and enameled on both sides (stippled interior), forms the walls and top of oven. The heavy cast iron one-piece bottom, weighing 22 pounds, eliminates all possibility of warpage and assures an evenly heated oven. The oven is extra large, measuring 20 inches wide by 21 inches deep.

Oven Door: The oven door has been increased in size and strength. Hinges of semi-concealed type, practical and strong, are used. Hangers are provided and the door is also counterbalanced with spring in ash pit. Spring is readily accessible for servicing. Tension adjustment is provided at rear of range.

COOKING TOP

The main top is made in three sections or key plates, each with two 8½ inch lids. Key plates have been increased in thickness over last year's models. One or two solid key plates (French plates) may be had in place of those with lids at no extra cost. All parts are of extra heavy cast iron, highly polished and protected against rust by an application of a special liquid. Top rails are assembled with concealed stud bolts and nuts. A splasher rib is provided in front of splasher to eliminate any unsightly joint.

COAL AND WOOD RANGES

SANICO

FIRE BOX

The fire box is well proportioned to the range and oven, providing an even distribution of heat with maximum fuel economy. Linings are sectional and corrugated. They have been altered to allow still more thorough ventilation. The inner fire door may be opened with lid lifter. Water front is optional. The opening of the pouch feed has been enlarged and door is equipped with drip rib to prevent liquid products of combustion dripping from pouch. The outer fire door is of hinge type; the inner door of drop type. Ash door and pan are of slide type with panel and frame attached.

GRATES

Standard grate bars are of special duplex design, well balanced and extra heavy, weighing nineteen pounds per pair. Crowned tops eliminate jamming in half position. Grates have been raised one inch to bring fire closer to cooking top and thus save fuel. A special grate for use when burning wood only and to set on top of regular grates may be had at slight additional cost; or special "locomotive" grates for burning lignite coal will be furnished without extra cost.

FLUES

The right vertical flue has been increased in area to provide still better draft; and all flues are fully lined. A shelf or flange is provided below cleanout opening to facilitate cleaning of bottom flue and to prevent spilling of soot and ashes.

COLORS

Sanico Ranges are porcelain enameled in beautiful colors, as shown on the colored prints. These colors are developed by our own engineers and not easily duplicated. Equipment of the very latest type and only high grade materials are used, assuring a fine, smooth finish carrying a high gloss. All work is carefully inspected.

DIMENSIONS

	Sanico
Depth of cooking top, inches	26½
Width of cooking top without reservoir, including end shelf, inch.	43½
Width of cooking top with reservoir, inches	50½
Height of oven, inches	12½
Width of oven, inches	20
Depth of oven, inches	21
Height to cooking top, inches	30½
Height overall, inches	59
Shipping weight with reservoir, pounds	600
Shipping weight without reservoir, pounds	550
Total weight of range uncrated, pounds	520

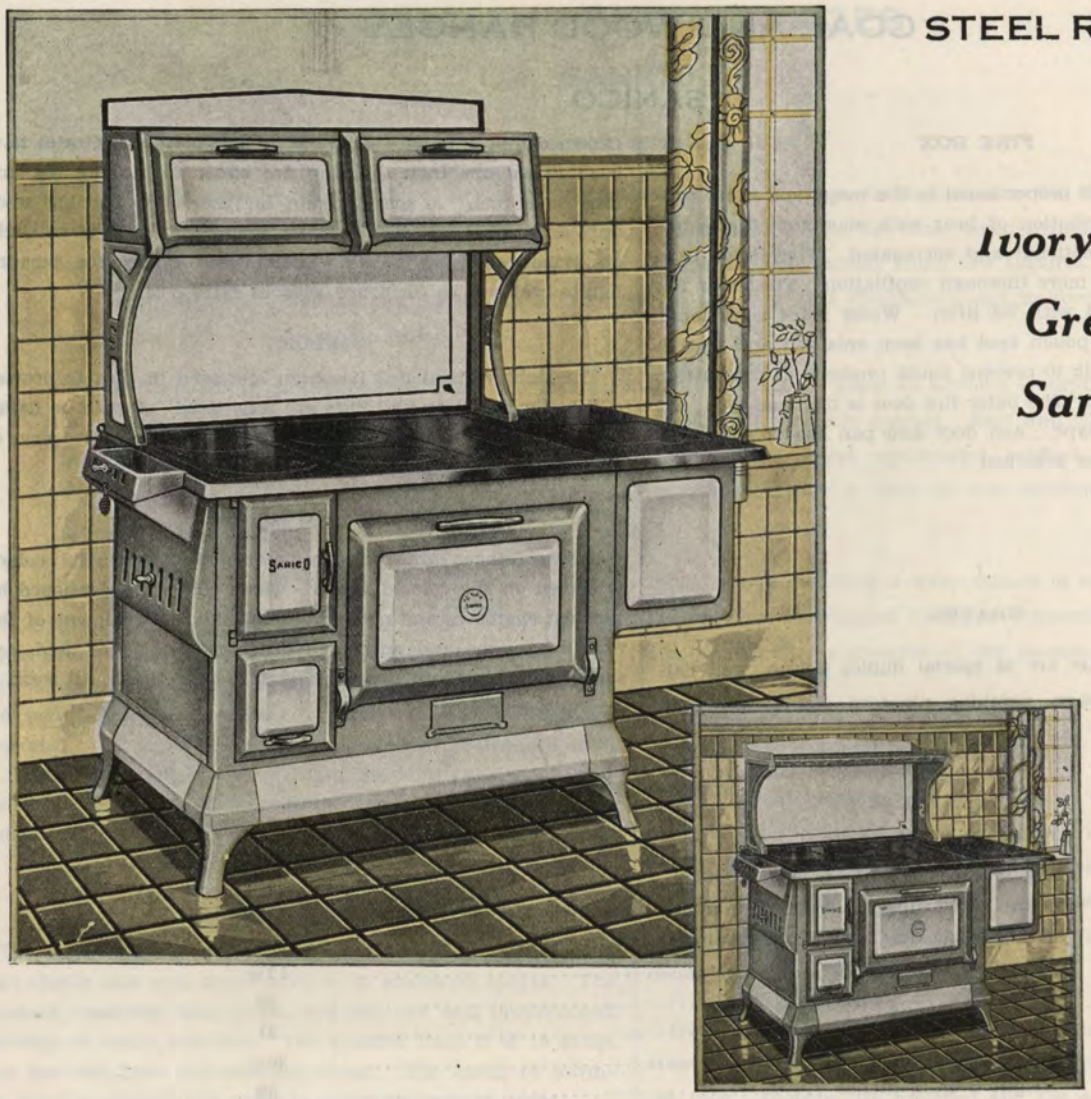
Do Not Overlook the New "Thrifty" Sanico and Shakopee Ranges

This year we are introducing two new numbers of Sanico built ranges, designed to give the service expected of Sanico Products, and yet priced to meet the reduced budgets of most families. Examine these new numbers carefully—they will prevent lost sales.

Sanicola Circulators

Just as Sanico ranges represent the maximum in quality construction of cooking equipment, so does the Sanicola line present heating equipment which for beauty and serviceable construction cannot be surpassed. See heating section for full details.

STEEL RANGES



Ivory and Green Sanico

SANICO

(Ivory and Green Finish)

No. 31-24RC
With reservoir and high closet.
Each $145.00

No. 31-24SC
Square style with high closet
Each $134.00

No. 31-24RS
With Reservoir and High Shelf
Each $135.00

No. 31-24SS
Square Style with High Shelf
Each $124.00

Waterfront—Each $11.00

A truly patrician-looking range is this Ivory and Green Sanico, showing our most recent color combination. A model which fits beautifully into the more colorful kitchen. Sales records already predict its great popularity.

Green, with its fresh, restful appeal is fast becoming the choice of many ladies for the dominant color of their kitchens—hence this exquisite ivory and green trimmed range in the New Sanico selection. The soft beauty of this range will never fail to appeal.

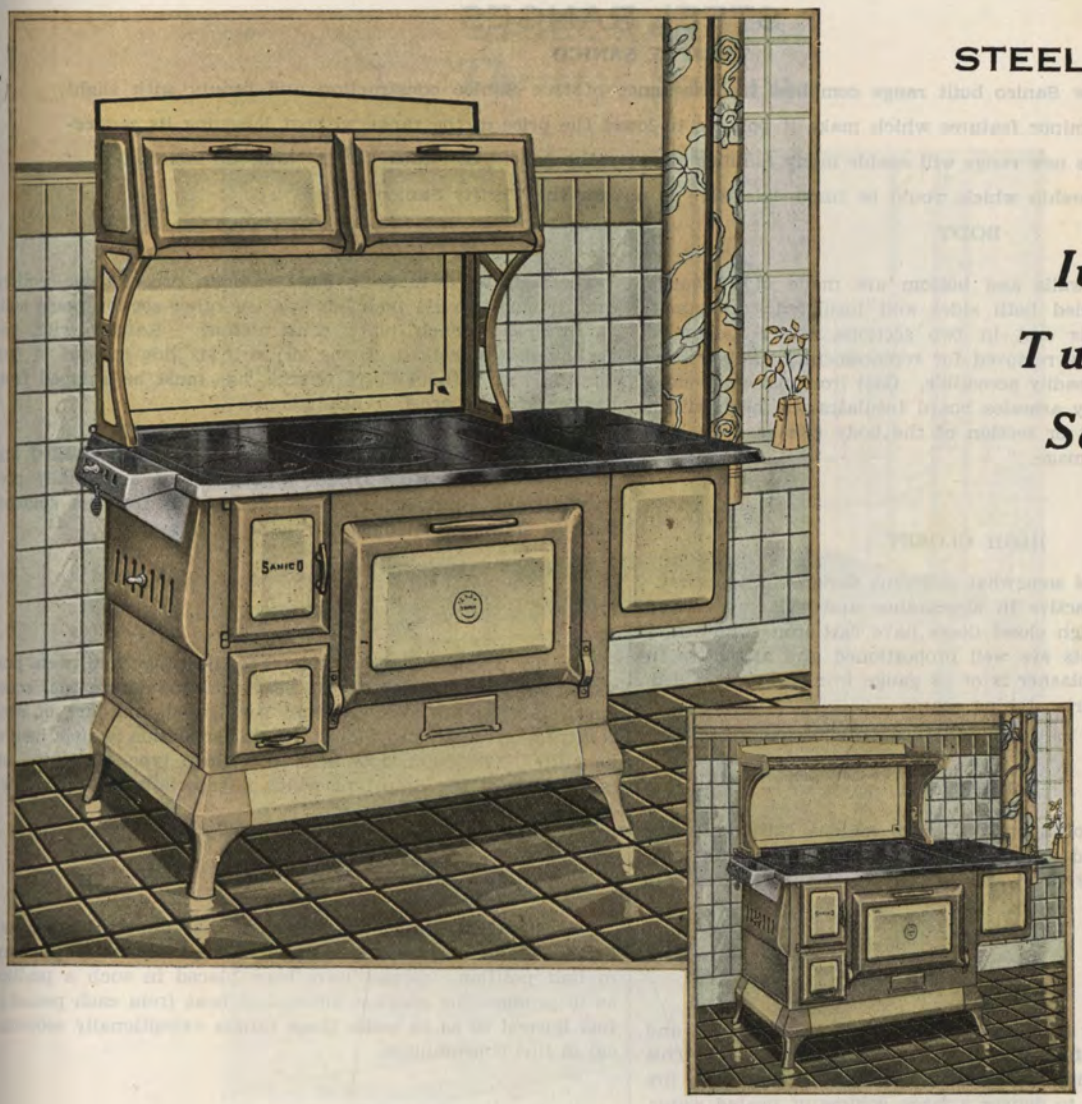
Note how simple, how surface-free is this modern range, even to concealing all bolts which might mar its appearance.

All ranges regularly supplied with one french plate and four lids. Ranges with six lids or 2 french plates and two lids may be had without extra charge from the factory and are F. O. B. Shakopee.

Caster Cups or Foot Rests for use with Sanico Ranges can be shipped in the following colors: Tan, Green, Gray, White or Black. Per set of four **$1.20**

STEEL RANGES

Ivory Tu-Tone Sanico



SANICO

(Ivory Tu-Tone Finish)

No. 31-23RC
With Reservoir and High Closet
Each $145.00

No. 31-23SC
Square Style with High Closet
Each $134.00

No. 31-23RS
With Reservoir and High Shelf
Each $135.00

No. 31-23SS
Square Style with High Shelf
Each $124.00

Waterfronts—Each **$11.00**

For the rich and neutral in color—for harmonious contrast with practically all colors, the Ivory Tu-Tone Sanico is outstanding.

Coupled with its beauty is its sturdy, scientific construction, employing an insulated Armco iron body with baked-on enamel surface inside and out. Little wonder that Sanico users know no worry over uneven cooking temperatures and ever-hungry fire boxes.

All ranges regularly shipped with one french plate and four lids. Ranges with six lids or two french plates and two lids may be had without extra charge from the factory and are F. O. B. Shakopee.

Caster Cups or Foot Rests for use with Sanico Ranges can be shipped in the following colors: Tan, Green, Gray (White and Black. Per set of four **$1.20**

STEEL RANGES

THRIFTY SANICO

This new Sanico built range combines the excellence of true Sanico construction and beauty with slight changes in minor features which make it possible to lower the price of the range without lessening its serviceability. This new range will enable many families to enjoy the benefit of Sanico quality and the satisfaction of Sanico ownership which would be impossible were it not for the Thrifty Sanico.

BODY

The outer body walls and bottom are made of 18 gauge Armco Iron, enameled both sides and insulated throughout. The front proper is cast in two sections, easily assembled and each piece easily removed for replacement. All bolts are concealed, but are readily accessible. Cast iron plates are used as linings and heavy asbestos board insulates the heat within the body. Any part or section of the body can easily be replaced in case of damage.

HIGH CLOSET

The high closet of somewhat different design than the regular Sanico, is attractive in appearance and well constructed throughout. The high closet doors have cast iron frames and hinges. The brackets are well proportioned and attractive in appearance. The splasher is of 18 gauge iron, fully enameled, and is free from dirt-catching seams.

RESERVOIR

The reservoir is of approximately 9 gallons capacity, made of heavy copper and well tinned on the inside. It will supply an abundance of hot water to fully meet the requirements of most families.

WATER FRONT

An efficient water front that takes the places of the left and rear linings can be furnished at a reasonable extra cost. This Water Front does not detract from the efficiency of the fire box, although cored to deliver a large volume of heated water. Holes in rear end are tapped for pipe connections and all fronts are tested under a pressure of 200 pounds.

OVEN

The oven sides and top are constructed from one piece of 16 gauge iron, flanged on both ends, and fitted to a heavy cast iron one-piece bottom weighing over 20 pounds. This construction eliminates all possibility of warpage and assures an evenly heated oven which will give the very finest baking results. Please notice that while the oven is of standard 18 inch width, it is extra deep, measuring full 20 inches, giving it extra baking capacity. The oven door is extra large and strong, having hinges of the semi-concealed type which are practical and strong. The door is supported both by hangers and counter-balanced with a spring in the ash pit where it is not subjected to intense heat and where it is readily accessible for servicing. A tension adjustment is provided at rear of the range. Interior of oven is aluminized.

COOKING TOP

The main top is made in three sections, two of these sections each having two 8½ inch lids and the other section being solid (known as French plate construction). Ranges with two French plates instead of one, or with six lids instead of four may be had without extra charge, but must be shipped from the factory and are f. o. b. Shakopee.

All parts are extra heavy cast iron, highly polished and protected against rust by an application of a specially prepared liquid. A splasher rib is provided in front of splasher back to eliminate an unsightly joint at this point.

FIRE BOX

The fire box is well proportioned to the range and oven, providing an even distribution of heat with maximum fuel economy. Linings are sectional and corrugated, and are of such construction as to provide thorough ventilation which insures long life. The outer door is of the hinge type, while the inner door is of the drop type which is especially desirable when wood is used as a fuel.

GRATES

The standard grate bars are of special duplex design, well balanced and extra heavy. Crowned tops eliminate jamming in half position. Grates have been placed in such a position as to produce the greatest amount of heat from each pound of fuel burned so as to make these ranges exceptionally economical in fuel consumption.

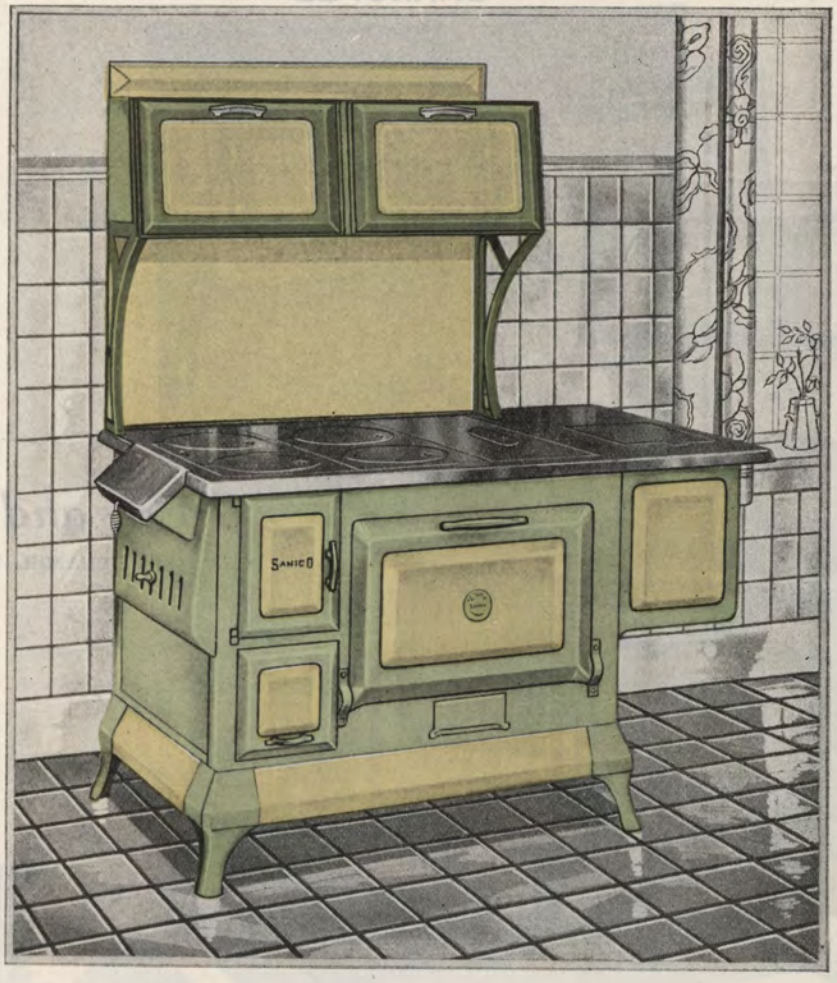
FLUES

All flues are of generous proportions so as to provide excellent draft and insure finest baking results. All flues are thoroughly enameled throughout. A shelf or flange is provided below the cleanout opening to facilitate cleaning of the bottom flue and to prevent spilling of soot and ashes.

COLORS

The Thrifty Sanico is made in Ivory and Green and in Tan and Ivory (like the Tu-Tone Sanico). The shades of enamel are identical with those on the regular Sanico. These colors are exceptionally beautiful and will meet with the enthusiastic reception of all house-wives. Enameling is of the famous Sanico quality which has been recognized as the leader since all porcelain enamel ranges were introduced by Sanico manufacturers.

STEEL RANGES
Thrifty Sanico



THRIFTY SANICO

Green and Ivory

No. 33-14RC—With reservoir and high closet. Weight 480 lbs. Each $115.00

No. 33-14SC—Square style with high closet. Weight 450 lbs. Each $107.00

No. 33-14RS—With reservoir and high shelf. Weight 465 lbs. Each $107.00

No. 33-14SS—Square style with high shelf. Weight 435 lbs. Each $99.00

Waterfronts—Each $11.00

THRIFTY SANICO

Tan and Ivory

No. 33-13RC—With reservoir and high closet. Weight 480 lbs. Each $115.00

No. 33-13SC—Square style with high closet. Weight 450 lbs. Each $107.00

No. 33-13RS—With reservoir and high shelf. Weight 465 lbs. Each $107.00

No. 33-13SS—Square style with high shelf. Weight 435 lbs. Each $99.00

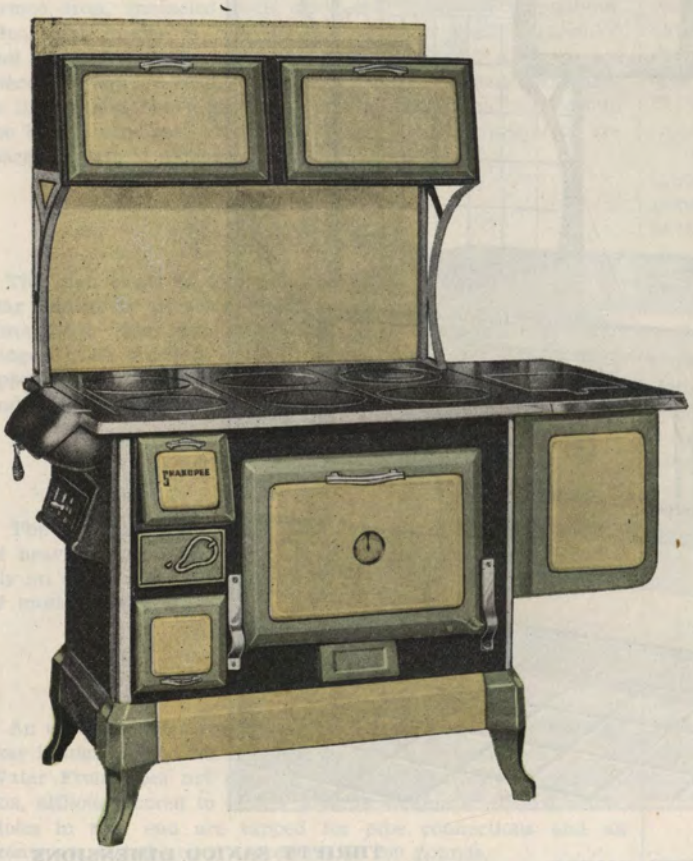
THRIFTY SANICO DIMENSIONS

Depth of cooking top, ins.	25
Width of cooking top without reservoir, including end shelf, Inches	38
Width of cooking top with reservoir, inches	46½
Height of oven, ins.	12½
Width of oven, inches	18
Depth of oven, ins.	20
Height to cooking top, ins.....	31
Height overall, inches	61
Ship. wt., with reservoir, lbs....	475
Shipping wt., without reservoir, lbs.	425

Caster Cups or Foot Rests for use with Sanico Ranges can be shipped in the following colors: Tan, Green, Gray, White or Black. Per set of four $1.20

STEEL RANGES

SHAKOPEE



Green and Ivory

(SEMI-ENAMEL TRIM)

No. 33-04RC—With reservoir and high closet. Weight 450 lbs. Each $88.00

No. 33-04SC—Square style with high closet. Weight 400 lbs. Each $81.00

No. 33-04RS—With reservoir and high shelf. Weight 435 lbs. Each $82.00

No. 33-04SS—Square style with high shelf. Wt., 385 lbs. Each $75.00

Waterfronts—Each 11.00

SHAKOPEE RANGES

The Shakopee Range is very similar to last year's Shakopee Pride, but is semi-enameled trimmed as shown in the illustration, instead of being fully enameled on the exterior.

Please note that the shades of Ivory and Green are identical with the colors of the regular Sanico which have met with such enthusiastic approval.

This range has an oven size 18 inches by 18 inches, but otherwise compares very closely with the specifications of the Thrifty Sanico shown on a previous page.

Caster Cups or Foot Rests for use with Sanico Ranges can be supplied in the following colors: Tan, Green, Gray, White or Black. Per set of four $1.20

SANICO RANGES

DESCRIPTIVE PICTURE OF THE SANICO, SANICO CORAL AND JR. SERIES.

THE WHOLE IS ONLY AS FINE AS ITS PARTS

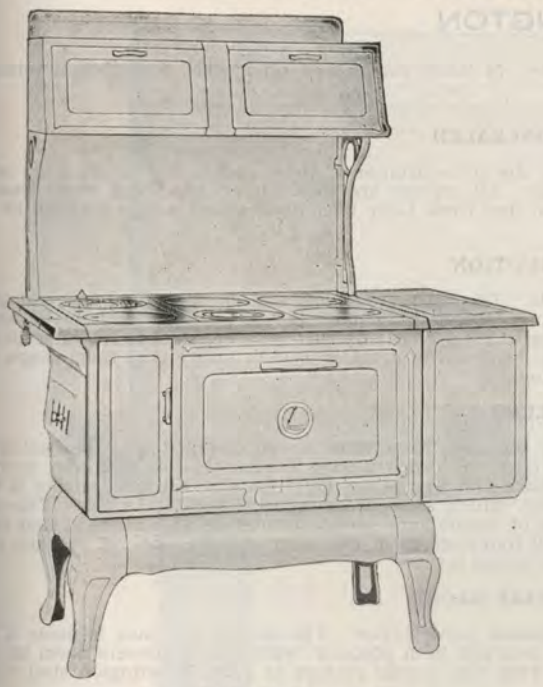
So that you may see just how the Sanico Range is constructed—just what function each individual part performs, we present this detailed description of its interior and exterior. The numbers below correspond with the numbers indicated in the illustration on the page opposite.

1 High Closet Backguard
2 High Closet Backguard Bracket—Left
3 High Closet Top Shelf
4 High Closet Main Front Frame—Left
5 High Closet Drop Door Frame
6 High Closet Drop Door Panel
7 High Closet Drop Door Handle
8 High Closet Center Bar
9 High Closet End Frame—Left
10 High Closet End Panel—Left
11 High Closet Lower Bracket
12 High Closet Splasher Back
13 Top Back Rail
14 Top Right End Rail
15 Top Front Rail
16 Top Left End Rail
16A *Top Left End Rail (For Pouch Feed)
17 Key Plate—Open
18 Short Center
19 Lid—Solid
20 Key Plate—Center
21 Lid—Sectional
22 Key Plate—Right
23 Damper Slide
24 Damper Lever
25 Damper Frame
26 Fireback Hanger Plate
27 Top Oven Linings
28 Top Oven Arch
29 Center Post
30 Reservoir Top
31 Reservoir Lid
32 Reservoir Front Frame
33 Reservoir Front Panel
34 Back End Lining
35 Back End Grate Rest
36 Fireback—Rear Section
37 Fireback—Center Section
38 Fireback—Front Section
39 Front End Lining
40 Straight Left End Lining
40A *Pouch End Lining
41 Short Grate Bar
42 Long Grate Bar
43 Grate Bar Cogs
44 Front End Cog Guard
45 Front End Lining Frame
46 Front Grate Rest
47 Inner Fire Door
48 Fire Door Hinges
49 Crank
50 Straight Left End
51 Draft Slide and Knob
52 Straight Left End Check Draft Slide and Knob
53 Left End Body Panel
54 Rear Corner Iron
55 Short Base Strip
56 Leg
57 Long Base Strip—Front
58 Main Left Front
59 Fire Door Frame
60 Fire Door Panel
61 Fire Door Handle
62 Fire Door Catch
63 Ash Door Frame
64 Ash Door Panel
65 Ash Door Handle
66 Ash Pan
67 Main Front
68 Main Front
69 Cleanout Door
70 Main Front
71 Oven Door Frame
72 Oven Door Handle
73 Oven Door Panel
74 Oven Thermometer
75 *Oven Door Lining
76 *Oven Door Catch
A-1 *High Closet Drop Door Lining
A-2 *High Closet Bottom Shelf
A-3 *High Closet Upper Back
A-4 *French Plate—Center
A-5 *French Plate—Right
A-6 *End Shelf
A-7 *Towel Rail for Left or Right End
A-8 *Pouch Feed Door
A-9 *Pouch Feed Left End

*Not shown in photograph

Note: When ordering specify nickel or enamel trim, and whether parts are wanted for range with 18-inch oven or 20-inch oven. In ordering parts Nos. 2, 4, 9, 10, specify whether right or left is desired.

Peggy Washington Cast Range



The Peggy Washington Cast Range is a high grade, flush front, cast range of modern and attractive design to be sold at a popular price. It is a full size, pouch feed range of exceptional value. The size has not been reduced in order to offer the stove trade this special outstanding value. It is absolutely the best pouch feed, flush front range manufactured today for the price asked.

Entirely Modern in Every Respect

All bolts are entirely concealed, which adds materially to the attractiveness of this range and makes it easier to clean. The range is modern in design and of most attractive appearance. All corners are smoothly rounded and every detail of construction has been given great thought and careful consideration in order that this new range may be the last word in cast-iron coal range construction. An improved type of concealed compression oven door spring is used which adds materially to the attractiveness of this range.

Extra Large Flues

Extra large flues are used throughout. This construction permits heat to be actually sucked out of the fire box around the oven. In this way, excessive heating of the cooking top is eliminated and burning out of fire box linings prevented.

Oven With Uniform Heat

The oven is built into the down flue. The heat is distributed uniformly around the oven. Joints of the oven and body of the range are smoke and gas tight. Genuine asbestos cement, the highest priced stove cement that can be obtained, is used throughout. The oven will not buckle, warp, or crack. There are no spots in the oven intensely hot while others are cool. It is possible to place small pans of food in each of the four corners of the oven so that every pan will bake uniformly. The oven is full size, large and roomy.

Extra Heavy, Ventilated Fire Back

The fire back is made extra heavy and is properly ventilated to insure long and satisfactory service.

Duplex Grates

The fire box is equipped with duplex grates for burning soft coal or wood. These are made extra heavy to insure entirely satisfactory service. The end linings of the fire box can be easily removed for burning wood. The fire box can be had equipped with two tribar grates for burning hard coal when required.

Large Capacity Contact Reservoir

The copper reservoir has a capacity of eight gallons and is heated by the contact system which insures a large supply of hot water without interfering with baking in the oven. This range can also be equipped with pipe water coil in the fire box for connection to pressure range boiler.

Modern Construction

Extremely careful consideration has been given to the construction of the Peggy Washington Cast Range so that it will bake better and quicker with less fuel. Equally careful consideration has been given to its design so that it is of most attractive appearance and so that it is easily cleaned. The design is perfectly smooth with all corners rounded. This range as illustrated on the right is the last word in flush front, pouch feed, coal range construction.

Descriptive Dimensions

Six 8 inch lids. Size pipe 7 inch. Size oven 18x17x11 inches. Height top of range 31 inches; height top of high closet 60 inches. Size top, including reservoir 43x24 inches.

ALL ENAMEL (As illustrated)

No. 118-5SC—Square with Warming Closet. Weight 385 pounds. Each $77.00
No. 118-5RC—Reservoir and Warming Closet. Weight 435 pounds. Each 89.50
No. 118-5SS—Square with High Shelf. Weight 375 pounds. Each 75.50
No. 118-5RS—Reservoir and High Shelf. Weight 425 pounds. Each 88.00

ENAMEL FRONT (See illustration of Lady Washington)

No. 118-SC—Square with Warming Closet. Weight 385 pounds. Each $65.00
No. 118-RC—Reservoir and Warming Closet. Weight 435 pounds. Each 77.50
No. 118-SS—Square with High Shelf. Weight 375 pounds. Each 63.50
No. 118-RS—Reservoir and High Shelf. Weight 425 pounds. Each 63.00

STEEL RANGES

LADY WASHINGTON

The New Lady Washington steel ranges are modern in every respect, of latest design and up-to-date construction throughout.

BOLTS ENTIRELY CONCEALED

All bolts are entirely concealed, which feature adds materially to the attractiveness of these ranges and makes them easier to clean. The compression oven door spring is concealed in the ash pit. All corners are smoothly rounded and every detail of construction has been given great thought and careful consideration so that these Lady Washington steel ranges may be the last word in steel range construction.

DURABLE CONSTRUCTION

These ranges are built of the finest rust resisting metal obtainable. The main front, left end, oven bottom, legs and skirts are constructed entirely of cast iron. The body of these models finished in porcelain enamel are constructed entirely of Armco Ingot iron. In the plain finished ranges, all sheet metal parts are made of copper bearing rust resisting steel to insure a lifetime of service. This type of construction, the proper combination of cast iron, with sheet metal, is used to insure that these ranges will cook and bake quicker so as to be most economical in fuel consumption.

EXTRA LARGE FLUES

The flues around the oven are extra large to insure satisfactory service. These flues are so designed that the heat is actually sucked out of the fire box around the oven. This prevents the top of the range getting excessively hot, and also, prevents the fire box linings from burning out. All seams or joints are made smoke and gas tight. Only genuine asbestos cement is used where needed, this being the highest priced stove cement, not stove putty, which soon becomes brittle and falls out. This construction insures that Lady Washington Steel ranges will give a lifetime of satisfactory service combined with efficient and economical operation. It is possible to place four small pans of food in all four corners of the oven and each one of the four pans will bake uniformly. There is no intensely hot spots and no cool spots in the oven.

EXTRA HEAVY DOUBLE FIRE BACKS

The special double fire backs are made extra heavy so as to withstand hard service. The double fire back is made of two pieces, the main fire back and the inside fire back lining, both of cast iron and both properly ventilated to prevent them burning out and to insure that they will give long and satisfactory service. This new special feature of Lady Washington steel ranges adds materially to their popularity.

SCIENTIFICALLY DESIGNED FIRE BOX

The fire box is scientifically designed to hold sufficient fuel to take care of cooking top and oven heating requirements without waste. All fire box linings are made extra heavy and are properly ventilated. Sufficient draft is insured by the proper construction of the grates.

DUPLEX GRATES

Lady Washington Steel Ranges are equipped with duplex grates for burning coal or wood. The end linings of the fire box and inner side lining of the fire back can be easily removed for burning 20 inch wood. These ranges are equipped with a cast iron wood extension at the back of the fire box so that 20 inch wood can be burned.

SLIDE DAMPER

The slide damper is made extra large to insure entirely satisfactory operation. When the damper is closed all of the heat from the fire passes across the top of the oven and down and around the right side of the oven into the space between the main bottom of the range and the bottom of the oven. Here the heat is deflected by the flue baffle strip which is placed so as to force the heat to the front before it can pass out and into the smoke box. This construction causes all heat from the fire to pass uniformly to all parts of the oven and insures quick and uniform heating of the oven. When the slide damper is in the open position the fire box is open directly to the flue which insures ease in starting the fire.

SECTIONAL KEY PLATE TOP

The main top is of the modern three piece sectional key plate type. The key plate over the fire box is equipped with one reducing cover and one non-burn cover and with short center. The other two key plates are closed key plates, each equipped with two standard covers. When required these ranges can be furnished with single French plate which replaces the center and right end key plate.

TRIPLE WALL ASBESTOS LINED CONSTRUCTION

There is a triple asbestos lined wall all the way across the bottom of this range immediately under the bottom flue which protects the floor from the heat and assists in holding the heat in the oven. In the full enameled finishes this triple wall asbestos lined construction is used where required.

CONTACT RESERVOIR

The reservoir is heated by the contact system which insures a large supply of hot water without interfering with baking in the oven. The reservoir has a capacity of six gallons.

LARGE AND CONVENIENT POUCH FEED

The pouch feed is made large to allow a liberal supply of fuel to be added without disturbing vessels on the cooking top. The pouch is extra wide and extra deep for convenience in adding fuel.

See Following Pages For Prices

Lady Washington Steel Ranges

A splendid, full size popular priced steel range. Main front, left end and pouch feed are of cast iron, the main front being all in one piece. Cast iron oven bottom will not warp or buckle. Entirely modern in every respect. All bolts entirely concealed. Single service door over fire box takes the place of ash door and fire door. Both oven door and service door fit flush into main front.

Enamel Front (As illustrated). Porcelain enamel is the new "Leathertone" finish which cannot be satisfactorily shown in photograph. The Ivory parts have a faint green design, which with the solid green trim, make a beautiful, harmonious effect.

SPECIFICATIONS—Oven size 18x18x11 inches; Cooking top (with reservoir) 43x24 inches; Firebox: (for coil) 16x8x7 inches; (for wood) 20x8x7 inches; Smoke collar 7 inches. Copper contact reservoir has a capacity of six gallons.

No. 418-SC—Square with Warming Closet. Weight 350 pounds. Each $65.00
No. 418-RC—Reservoir and Warming Closet. Weight 375 pounds. Each 77.50
No. 418-SS—Square with High Shelf. Weight 340 pounds. Each 63.50
No. 418-RS—Reservoir and High Shelf. Weight 365 pounds. Each 73.00

CAST COOK STOVES

ART LIBERTY

A durable moderately priced line of Cook Stoves with the necessary weight and strength for a lifetime of service.

Reservoir Style

Equipped with a removable, galvanized reservoir of 5 gal. capacity. Contact type, heating the water quickly without interferring with the operation of the stove.

No. 819R—Burns Wood or Coal, holes 4—8″; Oven 18x15x10″; Smoke Collar 6-in.; Wt., 255 lbs. Each $45.00

SQUARE STYLE

On legs, nickeled Oven Shelf. Duplex Grates for coal or Wood.

No. 8-17—Top including shelf, 22x30¼ inches. Oven 16x15x-9½ inches; 4—8-inch holes. 6 inch pipe. Shipping weight 205 lbs. Each $27.80

No. 8-19—Top including shelf 23¼x32¼ ins. Oven 18x17½x10¼ inches; 4—8 inch holes. Size pipe 7 inches; Shipping weight 240 pounds. Each $35.00

MORTON WASHINGTON STEEL COOK STOVE

FOR COAL OR WOOD

The Morton Washington Steel Cook Stove is substantially constructed of copper bearing rust resisting steel. It is equipped with an efficient cast iron fire box with dumping grate. The ash pan is attached to the ash door for convenience in ash removal.

The cast iron drop oven door frame is equipped with an attractive cushioned porcelain enamel panel.

The body of the Morton Washington Steel Cook Stove is provided with convenient clean-out door underneath the oven. The plain cast iron cooking top is constructed with four, seven inch holes.

No. 4714 has four, seven inch holes. Six inch smoke pipe collar. The oven is 13½ inches by 16⅝ inches by 8¾ inches, and the height to the cooking top is 28½ inches.

The cooking top is 18½ inches by 25 inches in size. The fire box burns 16 inch wood and the shipping weight is 125 pounds.

No. 47-14 (127-14R)—Square style as shown; Wt., each 125 pounds. Each $19.00

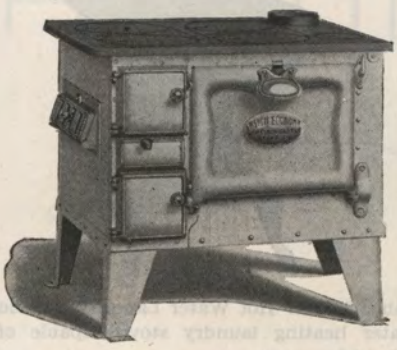
No. 47-14R (127-14R)—With Reservoir, no high closet. Wt., each 145 lbs. Each $27.00

No. 47-14C (127-14C)—Square style with high closet. Weight, 150 pounds. Each $27.00

No. 47-14RC (127-14RC)—With Reservoir and high closet. Wt., each, 170 pounds. Each $35.00

RANCH STOVES

ECONOMY ENSIGN—For Coal or Wood



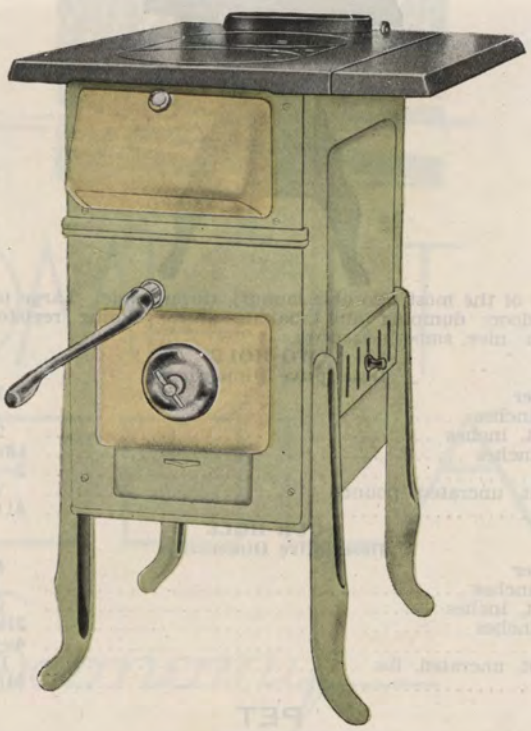
Built especially for sheep wagons, camps, etc. Holes in top to bolt stove to wagon bottom. Doors securely fastened so stove may be operated while wagon is moving. Body of copper bearing, insulated steel, aluminized. Cast iron doors, firefront, legs, draft slide, cooking top. Four 7 inch covers. Oven 13x16. Height to cooking top 25½ inches. Six inch pipe collar.

No. 177—Size top 23x18½ inches. Weight each not crated, 85 lbs. Each $23.00

The Washington Line of Gas Ranges presents finest values in well-built, attractively designed gas ranges. We are also headquarters for all other types of gas burning equipment—whether for cooking or heating.

See the "Gas Section" of this Catalog

KITCHEN HEATERS



An all cast iron heater. Mounted on four adjustable legs so that top height can be adjusted to the height of any gas or oil range. Polished top with 2—8-inch lids. Height, adjustable from 20¾ to 33¼ inches. Size of top 18¾x24 inches; Size of pipe, 6 inches; size of fire box 16x8x8 inches; fire door opening 8x5 inches. Reversible end shelf. Large ash pan; 7-inch pipe collar.

No. G28—Gray Porcelain Enameled finish. Weight, each 200 pounds. Each $32.00

No. W28—White Porcelain Enamel finish. Weight, each 200 pounds. Each $32.00

No. N28—Green Porcelain Enameled finish. Weight, each 200 pounds. Each $35.00

No. B28—Plain black finish. Wt., each 200 lbs. Each ..$21.70

LAUNDRY STOVES

WESTERN LAUNDRY

One of the most desirable laundry stoves made. Large pouch feed door; dumping and shaking grate; sliding register in hearth; nice, smooth castings.

TWO-HOLE
Descriptive Dimensions

Number	28
Pipe, inches	6
Height, inches	23
Top, inches	18x21
Holes	2—8″
Weight, uncrated, pounds	70
Each	$11.50

FOUR-HOLE
Descriptive Dimensions

Number	48
Pipe, inches	6
Height, inches	23
Top, inches	21x33
Holes	4—8″
Weight, uncrated, lbs.	100
Each	$15.00

PET

FOR COAL

A good all cast iron laundry stove at a low price. Has dumping grate, swing feed door and swing ash door. No sheet steel used in this stove.

Discriptive Dimensions

No.	8-P
Pipe, inches	6
Height, inches	21
Weight, uncrated, pounds	50
Each	$6.90

HOT WATER LAUNDRY

The Number 228HW Hot Water Laundry is a hollow or cored fire pot water heating laundry stove capable of heating an ample supply of hot water.

The fire pot is tapped for ¾-inch pipe and can be tapped for 1-inch pipe on special order. It is so constructed as to heat a maximum supply of water. The castings are plain and smooth. Self-mounting ash door. Flat dump shaker grates.

Number	228HW
Size and Number of Lids	2—8″
Size of main top, inches	17½x20½
Total Height, inches	22½
Inside diameter, inches	11½
Outside diameter, inches	13½
Weight crated, pounds.	100
Each	$19.00

The Number 448HW Hot Water Laundry is the same as the Number 228HW, except that it is equipped with four lids instead of with two.

The fire pot is large. The castings are heavy, and well constructed. Main top is large enough for a No. 8 boiler. Smooth, attractive pattern.

The fire pot is tapped for ¾-inch pipe and can be tapped for 1-inch pipe on special order.

Number	448HW
Size and Number of lids	4—8″
Size of main top, inches	20½x24
Total height, inches	21½
Inside diameter, inches	11½
Outside diameter, inches	13½
Weight, crated, pounds	130
Each	$23.50

HEATING COMFORT

The SANICOLA

Comfort

Everyone can be comfortable in a home that is heated with a Sanicola. It is designed so that the cooler air is drawn from the floor, heated as it passes around the sides and over the top of the heating unit and distributed evenly to all parts of the home. You don't need to hug the Sanicola in cold weather—it assures perfect comfort everywhere.

Economy

You will save many dollars in fuel each year with a Sanicola. First, you never need to force the fire—because the Sanicola gently circulates the warm air to all points in the home. Second, by keeping water in the Sanicola Vapor Pans, you put moisture into the air as it is heated. Everyone knows that moisture filled air at 70 dgerees is much more comfortable than dry air at 80 degrees.

Beauty

With its beautifully finished cabinet, and its lovely, enameled wood grain finish—the Sanicola adds remarkably to the appearance of any room. Because of its stylish appearance most folks never take it out of the room, even during the summer months.

Health

Doctors tell us the chief cause for many of the ailments that attack us during the winter is lack of moisture and uneven heat in our homes. Without moisture in the air, our throats and noses become parched and irritated—and we are easy victims for colds and contagious diseases. The Sanicola adds this very necessary moisture to the air of your home at the time it is heated. It keeps living conditions comfortable and healthful.

CIRCULATING MOIST AIR HEATER

THE SANICOLA JR.

Hot in one corner—cold in another; this is the state of affairs with many home owners' present heating systems. What a treat they have coming in the Sanicola Jr., the circulating heater which will cast steady warmth into every corner of their homes. Healthful heat, because it is properly moist; economical heat, because the Sanicola Jr. utilizes every heat unit in the fuel.

And what a good-looking piece of furniture is the Sanicola Jr.;—its simple, dignified lines, its rich Enamel Walnut Finish, give it real beauty. Each coat of enamel—the famous Sanico Super-Porcelain Enamel—is fused on separately at 1600 degrees, making it practically indestructible.

THE CABINET

The cabinet is strongly constructed and rigidly assembled with a combination of cast iron and heavy steel panels. The entire front is made of cast iron with the exception of the upper panel. The fluted lower side panels are likewise of cast iron. The top frame is cast in one piece and carries the top grids which are also of cast iron.

The cast iron feet are securely attached to a steel frame which carries both the heating unit and cabinet. All bolts are concealed except on back of cabinet.

The water pan is of porcelain enameled cast iron and placed at the most efficient elevation at the rear of the heater. It is easily filled and is provided with a cover for the projecting portion.

The flue elbow is also of cast iron with a 7-inch collar and fitted with a check draft for fire control.

Finish—The entire cabinet is porcelain enameled in a rich grained walnut finish. All steel parts are enameled on both sides.

The front doors are hinged in a very unique way so that in open position they hide the air space between the heating units and cabinet walls and enhance the beauty of the heaters.

CIRCULATING HEATERS

SANICOLA

THE HEATING UNIT

Thicker walls with extra large combustion chamber explain the Sanicola Jr's greater spread of heat

The combustion chamber of the Sanicola Jr. is so large it produces and circulates far more heat than the average heater. The unique baffle plate which crosses the chamber at the rear of the dome, traps and holds the gases in such a way that none of them can escape through the flue until their combustion has been completed. The heavy cast iron walls aid in drawing the full measure of heat from the fuel.

An extra large fire door, 10x17 inches, permits inserting generous-sized fuel.

Every section built into the Sanicola Jr. is there to serve in the efficient, economical operation of the whole. There are absolutely no frills or unnecessary air ducts on the Sanicola Jr. It is a perfectly balanced, all-service product.

Ash Pit—Cast Iron throughout for long life and strength. Large in area to accommodate the large ash pan and 8 inches deep to provide excess air circulation under the grates. This is a safety feature which prevents the burning of grates.

Ash Pan—Heavy gauge (20 gauge Armco Iron) for strength.

Ash Door—Cast Iron and carefully fitted to ash pit to make it air-tight. Disc Draft Check instead of sliding for more perfect draft control.

Grates—Extra heavy double bar carried in sliding cast iron frame and easily removed and replaced through ash door. Duplex type for all kinds of fuel.

Fire Pot—Extra large size oval shaped for greater fuel capacity. Side wall ⅝ inch thick.

Combustion Chamber—Herein lies the secret of the efficiency of the Sanicola Heater. A cast iron baffle plate extends across the rear half of the dome forcing all smoke and gases to travel toward the front, upward into the dome where combustion of all heat units is complete, then downward behind the baffle plate and out through the flue. The heavy cast iron walls of the chamber draw all heat from the burning units during their longer travel an dexpel it into the air passing through the cabinet.

Dome—16 inches high.

Feed Door—Extra large (11x17½ inches) to permit firing large fuel. Gas tight "interlocking bead" joint and inward swinging smoke curtain. Mica windows with perforated metal reinforcement.

Flue Elbow—Cast iron for 7-inch pipe.

Models	420	422
Fire pot, size, inches	20x13	22x13½
Dome height, inches	17	22
Fire door, inches	17½x11	17½x11
Floor space, ins.	31x23	34x24
Height, inches	45	50
Weight, each, lbs.	4.75	6.40
Each	$89.00	$114.00

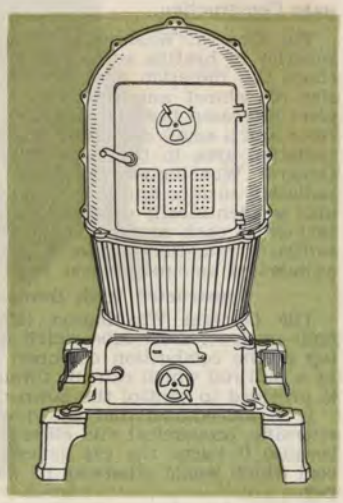
SHAKOPPE HEATERS

No. 518 Cabinet

Shakopee Heaters are similar in design and finish to Model 420 and 422, except that they are made without cast iron side panels. Ash pit is located in front instead of on right hand side.

The cabinet is square and of pleasing proportions with pressed design on side panels.

Truly a handsome and efficient heater at a reasonably low price.



No. 518 Heating Unit

Round type cast iron construction throughout supported directly on cast legs.

Fire door is large and fire pot deep, permitting the use of large chunks of wood as well as coal for fuel.

Grate is very heavy and of shaker type with dump center and a well made, easily removed ash pan of large size is furnished. A cast iron draft check for attaching to smoke pipepipe and smoke curtains are also provided.

Fire and ash pit doors are well fitted. Fire door has hot blast check and ash pit door has convenient foot operated draft check.

Round heaters are known to be very efficient and economical and this one of generous proportions is especially satisfactory.

Fire pot 17 inches diameter by 9 inches deep. Fire door, 10½ inches by 13 inches.

Model	518
Floor space, inches	24x24
Height, inches	42
Weight, each, lbs.	3.30
Each	$65.00

GENERAL WASHINGTON
HOT BLAST SUPER-FURNACE

SEVEN SIZES

Built to Standard Specifications—A Brand New Idea in Furnace Construction.

The General Washington Hot-Blast Super-Furnace is vastly superior in heating surface and capacity. It has two or three times the radiation area of the ordinary heater in the same size of cabinet and fire bowl. The increased radiation area gives increased heating capacity. The difference between a big stove and a small one is the fact that the larger stove has more radiation area in the cast-iron heating unit to give off heat. General Washington Hot-Blast Super-Furnaces have double radiation surface and give double the heat because the heating unit is scientifically designed with twenty square feet of heating surface to each square foot of grate area. Unless a stove has sufficient radiation surface it cannot give off the efficient and economical amount of heat from the coal burned.

Constructed With Down-Draft Hot-Blast Tube

The General Washington Hot-Blast Super-Furnace has a built-in down-draft tube which is hung from the center of the top of the combustion chamber. A register which is operated by a pull rod which extends through the left side of the cabinet is provided to control the down-draft hot-blast.

It is well-known that the down-draft hot-blast is the most scientific, economical and efficient method of burning soft coal because it burns the gas generated by the combustion of the coal which would otherwise be wasted by passing up the chimney.

This feature burns the fire downward from the top. The velocity of the hot blast air through the down-draft tube causes hot air to penetrate the entire body of coal. The air is heated to over six hundred degrees and forms an instantanous chemical union for perfect combustion of the gas caused by the burning of the coal which is wasted in other stoves in which the hot-blast down-draft tube is not used.

Scientifically Built for Double Heat Capacity

The scientific formula for warm air heating systems states that the radiation area should be twenty times the grate area. These Furnaces are built to this standard—twenty-to-one. Comparison will show that each one of these five furnaces has two and three times the radiation surface of other stoves with the same size cabinet and fire pot.

Fire-Pot of Scientific Design

The fire-pot is scientifically designd so that it has the correct capacity to hold the coal required for an eight-hour period plus twenty per cent reserve which is used in lighting the next charge. The fire-pot capacity is determined by knowing the rate of combustion and the area of the grate. Heating engineers have learned that there is a definite rate of combustion for maximum efficiency. From these facts, the number of pounds of coal that can be efficiently and economically burned per hour on the grate of these Furnaces is determind. The fire-pots are scientifically designed to give maximum efficiency of operation. The capacity of the fire-pot of each size has been designed so that when it is filled with coal it will operate for eight hours of operation there is twenty per cent of the volume of the fire-pot in red hot coals to light the new coal.

Combustion Chamber

One of the most important considerations in the design is the volume of the combustion chamber. The volume of the combustion chamber above the fire must be amply large to permit sufficient air to come in contact with the gases rising from the fire to burn these gases completely. Combustion chambers of these Furnaces are scientifically designed and proportioned so as to give most efficient, economical and complete combustion of these gases.

Ash Pit

The ash pits have been carefully designed and constructed so as to give ample ash space and plenty of room for convenience in removal of ashes. The ash pits are proportioned in accordance with the size of the fire-pot to permit an adequate supply of air through the grates for proper, efficient and economical combustion.

Grates

No part of a furnace is more important than the grates. In these Furnaces the grates are scientifically designed for efficient combustion and proper operation. Grates are easily removable through the ash door for repair or replacement. Either duplex gates for soft coal or wood or triangular three-bar revolving grates for hard coal and coke are available.

Capacity and Rating

In recent years very little thought or consideration has been given to anything but price in the selection of a furnace for heating the home. For this reason, the capacity of the furnace and its ability to heat the home in a satisfactory manner has been badly neglected. The rating of these Furnaces insure that the proper size can be selected to give entirely satisfactory heating service combined with efficient and economical operation. General Washington Hot-Blast Super-Furnaces extract a maximum amount of heat from the fuel burned and are most efficient.

The most important consideration is that the Furnace shall have ample capacity to heat the home in which it is to be installed during coldest weather. If a size too small is selected it will be necessary during cold weather to force the furnace or overfire it Keen competition often causs the installation of a furnace a size or two sizes to small for the house to be heated, which does not give satisfactory service to the customer. This is to be avoided.

GENERAL WASHINGTON
HOT-BLAST SUPER-FURNACE
Two-Tone Maple Trim on Burl Walnut—Built-in Down-Draft Hot-Blast Tube

Maple Trim

Something new and different is the maple panel trim on the beautiful burl walnut finish. This follows new style trend in furniture. The light maple panels brighten up the living room in which the Washington Furnace is installed.

Fire Glow

Equipped with large mica door panels to provide the cheerful glow of the fire light—a feature the public demands. The new fire door fits flush into a recess in the front of the cabinet, as does the ash door.

Ornamental Design

The cabinet is modern furniture design with new improved one-piece cast-iron curved top with only two loose grills, and with attractive panel design on furniture-like base and will harmonize with the most attractive furniture in the finest homes. The finish is beautiful burl walnut vitreous porcelain enamel. Maple panels brighten the design like the new furniture styles.

GENERAL WASHINGTON
CIRCULATORS

Be sure to sell the correct size for the house to be heated, as specified by the rating.

Heretofore, lack of attention to this matter has been due to the lack of reliable, scientific information on furnace performance under working conditions. The information which is given regarding rating of these Furnaces is accurate and can be relied upon.

Meet Established Requirements

1. Proper rate of combustion of coal.
2. Heating value of coal burned used to heat house.
3. Scientifically designed grates of proper area.
4. The efficiency of the furnace insured by: Scientifically designed and correct area of heating surface, and correct area for passage of circulating warm air between the heating unit and the cabinet, and the proper area of opening in the top grill.

These factors insure these Furnaces meeting the established requirements of circulating, warm, moist healthful air (not hot air) through the house, and determine the ability of these circulating heaters to burn coal most efficiently and most economically, and to impart the heat on account of their correctly designed heating units for delivery at the proper warm air temperature (not hot air) into the home.

The quantity of coal burned is governed by the rate of combustion and by the area of the grate. The amount of heat circulated in the home depends on the scientific design and construction of the heating unit. The principl factors that determine the efficiency of the furnace are: the total area of heating surface, the circulation space between the heating unit and the cabinet and the proper area of opening in the top grill. Scientific design of these factors in General Washington Hot-B'ast Super-Furnaces insures efficient and economical operation.

Twenty-to-One Ratio of Heating Surface to Grate Area

Tests which have been conducted over many years have proved that the total area of heating surface should have a ratio to the total area of the grate of twenty-to-one. This is considered basic for good practice, and the heating units of these Furnaces are designed in accordance with this rule.

These tests have demonstrated that the maximum efficiency results when the circulation space for air between the heating unit and the cabinet is 48 per cent of the total area. Another factor which determines the maximum efficiency is the area of opening of the top grill. This is established by these tests to be 35 per cent of the total area.

The area of the grate of each Furnace is determined by the number of rooms which it is required to heat. From this requirement the area of heating surface is determined and the dimensions of the fire pot and volume of the combustion chamber. Working from these, the area of the cabinet is determined. The grill is designed to have 35 per cent of the total area, for most efficient and most economical operation.

TWENTY SQUARE INCHES OF RADIATION SURFACE TO ONE SQUARE INCH OF GRATE AREA

Grate surface determines fuel consumption. Radiation area determines heat utilized from the fuel. Grate area and radiation surface are correct factors of heating capacity. Fire-pot size does not indicate heating capacity.

The No. 325 General Washington Hot-Blast Super-Furnace has more radiation surface and will give off more heat than the average competitive twenty-inch fire bowl heater. This furnace has eleven and one half square feet of radiation surface in its heating unit. A well-known competitive furnace with a twenty-inch fire bowl has less than ten square feet radiation area.

No Fuel Waste

A square foot of grate surface will burn enough coal to heat twenty square feet of radiation surface. If only ten feet of radiation surface is provided, there is a 50 per cent waste of fuel. Education of the public to buy heaters on a measurement of radiation surface of rating instead of by fire bowl size is necessary.

Model	No. 729	No. 527	No. 426	No. 325	No. 224
Height	54 in.	47 in.	44 in.	42 in.	40 in.
Feed Door Opening	19x11 in.	14x9 in.	14x9 in.	12x7 in.	10½x6 in.
Ash Door Opening	19x7 in.	14x5 in.	14x5 in.	12x5 in.	10x5 in.
Pipe Collar	7 in.	7 in.	7 in.	6 in.	6 in.
Height, Floor to Center Pipe Collar	41 in.	34 in.	31 in.	29 in.	27 in.
Floor Space	36x26 in.	32x24 in.	29x22 in.	27x21 in.	26x20 in.
Weight	750 lbs.	500 lbs.	400 lbs.	325 lbs.	290 lbs.
Residence Heating	7 to 9 Rooms 7000-9000 cu. ft.	5 to 7 Rooms 5000-7000 cu. ft	4 to 6 rooms 4000-6000 cu. ft.	3 to 5 Rooms 3000-5000 cu. ft	2 to 4 rooms 2000-4000 cu. ft.
One Large Room Exposed	10500-13500 cu. ft.	7500-10500 cu. ft.	6000-9000 cu. ft.	4500-7500 cu. ft.	3000-6000 cu. ft.
One Large Room Un-Exposed	16800-21600 cu. ft.	12000-16800 cu. ft.	9600-14400 cu. ft.	7200-12000 cu. ft.	4800-9600 cu. ft.
Price	$130.00	$100.00	$78.00	$62.00	$53.50

GENERAL WASHINGTON

CIRCULATORS

It is the only correct way to measure heating capacity. A heater which is not built to standard code wastes fuel.

Double-Ribbed Combustion Chamber

The combustion chamber is made of tough, gray cast-iron with heavy fins both inside and outside. It is extra large with plenty of space for proper mixture of air, gases, and smoke to promote complete combustion. The combustion chamber is made of five sections to permit expansion and contraction without cracking or warping. The pipe collar is in the back. The top of the combustion chamber therefore extends up above the pipe collar, which holds the heat and holds the smoke and soot immediately over the fire until practically all of the smoke and soot is consumed and the heat is circulated throughout the building instead of allowing a large portion of this heat to go up the chimney with the smoke, as occurs with other furnaces where the pipe collar is on top instead of in the back. The pipe collar being in the back also eliminates the necessity of using an elbow when connecting these furnaces direct to a fireplace.

Long Life Fire Bowl

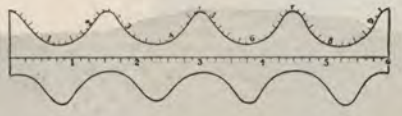
The fire bowl is extra heavy, extra thick, and double-ribbed inside and outside, and further strengthened with a reverse arch shape, as illustrated in the accompanying cut of the inner heating unit, to prevent cracking. The fire bowl has been purposely built extra heavy to withstand heavy firing and hard service.

Extra Large Doors

One of the most attractive features of all five sizes of the General Washington Hot-Blast Super-Furnace is the extra large feed doors and ash doors used. On model No. 729 and model No. 628, the feed doors are sufficiently large so that a nail keg may be rolled into them, as shown in the accompanying cut. The feed doors on all sizes are made extra large in order to make firing easy and in order to permit firing of large lumps of coal or long sticks of wood.

More Heat Because of Fins

Cast-iron fins on the fire bowl and combustion chamber, both on the inside and on the outside, induct the heat more rapidly from the fire. These ribs also provide more rubbing surface for the air circulating between the heating unit and the cabinet to brush off the heat. The heat is inside of the furnace and will escape up the flue except for the amount intercepted and radiated and brushed off by the circulating warm air. Therefore the double-finned construction used on these Furnaces provides more iron to intercept heat and to radiate heat and more surface for the circulating air to brush this heat off and use it for heating the home.



The cut above shows a cross section six inches long of the firepot. Note that measurement following the fins is slightly more than nine inches. In a section six inches square there is an area of nine times six or 54 square inches on the ribbed radiating surface as compared with six times six or only 36 square inches on a smooth surface. These ribs therefore increase radiating surface 18 square inches or 50 per cent.

Cast-Iron Elbow

A new improved cast-iron loose elbow equipped with an oversized check-draft register and equipped with a cast-iron turn damper is supplied with all sizes. This elbow insures proper control of the fire at all times when operated in conjunction with the hot-blast down-draft and the direct-draft damper in the ash pit door.

Cast-Iron Water Pan in the Back

The water pan on each one of the five sizes is located in the back panel at the correct height to insure proper addition of a healthful amount of moisture to circulating warm air.

Louvers and Hand-Holds in Side Panels

No. 729 equipped with hand-grips on the sides for ease in handling. Cold air intake is through the bottom in order to provide long travel across the heating unit and therefore more intensely heat the air. However, supplementary cold air intake is provided on all models through four louvers in each side. These louvers provide auxiliary cold air intake and also deflect radiated heat from the fire box downward onto the floor near these furnaces.

A COMPARISON OF RADIATION SURFACE AND THE GRATE AREA OF CIRCULATORS

	Fire Bowl	Radiation Surface	Grate Area	Ratio Radiation to Grate	Fuel Waste Per Cent	Fuel Waste Dollars
No. 325 Washington	16 in.	1695 sq. in.	84 sq. in.	20 to 1	0	0
No. 2 (Nationally known (brand)	20 in.	1295 sq. in.	136 sq. ft.	10 to 1	50%	$10.00 out of $20.00
No. 3 (Price Line)	20 in.	1633 sq. in.	126 sq. in.	13 to 1	30%	$7.00 out of $20.00

Notice from the above table that a No. 325 General Washington Hot Blast Super-Furnace has 25 per cent more radiation surface than the No. 2 Circulator and has more radiation surface than the No. 3 Circulator and has more radiation surface than the No. 3 Circulator. Note that both No. 2 and 3 Circulators have 20-inch fire pots. Therefore, the smaller size general Washington Hot-Blast Super-Furnace will heat more space than either the No. 2 or No. 3 Circulator. On account of the fact that it costs less to operate the No. 325 General Washington Hot-Blast Super-Furnace and because it heats more space than either of the other two Circulators, it is of course quite evident that it is much more efficient and economical and that it costs much less for operation and therefore will pay for itself in much shorter time than either of the other two Circulators.

Notice also from the above table that grate area in the No. 325 General Washington Hot-Blast Super-Furnace is less in order to insure correct fuel consumption, while the other two Circulators have large grate areas and consequently consume more fuel. It is a fact that each one of these two Circulators has nearly twice as much grate area as it should have in proportion to the ratio to radiation surface. This is shown as fuel waste and there is no exaggeration in the table under the heading which shows that the No. 2 Circulator is wasting about $10.00 out of every $20.00 worth of coal burned, while the No. 3 is wasting about $7.00 out of every $20.00.

This wasted coal goes up the chimney and is actually wasted heat that was produced but which could not be used in heating the home on account of lack of heating surface to radiate it.

The No. 325 General Washington Hot-Blast Super-Furnace is therefore shown to be wonderfully efficient in operation. It has more radiation surface than either the No. 2 or No. 3 Circulator with 20-inch fire bowls and will consume less fuel in heating a larger space.

CIRCULATING HEATERS

MARATHON

The Marathon Circulator makes the newest and best method of hea-ting homes without basements available at a very reasonable cost. This heater will supply an abundance of healthful, warm, humidified air which will circulate to each corner of all connecting rooms; thus keeping the entire home at a comfortable temperature.

In design, the Marathon is similar to a beautiful high grade radio cabinet. It is finished in deep, rich walnut enamel in keeping with the finest, most modern home furnishings. This enamel finish can easily be kept clean and bright by an occasional wiping with an ordinary dust cloht. There is no nickel to tarnish, no black surface to require constant use of stove polish.

A feature of the Marathon which receives enthusiastic approval (especially where wood is the fuel) is the extra large feed foor on both sizes. The 22-inch size, for instance, has an opening large enough to admit a full size nail keg. Duplex grates for efficient burning of either wood or coal, are regular equipment.

HEATING UNIT

The heating unit of the Marathon is all of cast iron of extra heavy weight. The grates and firepot are especially substantial. These are the parts which usually give out first, so extra strength at these points means longer trouble free service.

CASING

The casing of the Marathon is all finished in walnut porcelain enamel. The sides and back are of Armco sheet steel and the front is heavy cast iron. The casing doors carry an ornamental grille-work design which is backed with ivory color steel cane.

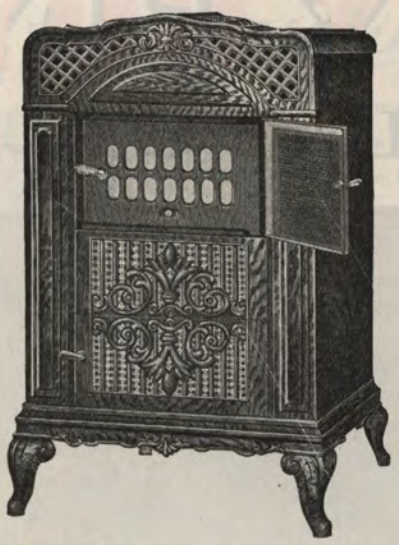
No. LW221—Marathon—(With Lignite Grates). Finished in Grained Walnut Enamel. Ship. wt., 375 lbs. Each..... 90.00

No. B221—Marathon—Casing finished in plain black iron. Shipping weight 480 lbs. Each 75.00

No. B201—Marathon—Casing finished in plain black iron. Shipping weight — lbs. Each..... 59.00

CIRCULATING HEATERS

MARATHON



The grille-work of the casing doors on the Senator is backed up with light-colored steel cane-work. This presents a very pleasing appearance and still allows the cheerful glow of the fire to be seen. The upper doors give free clearance to the inside fire-doors but are not so large as to show the entire heating unit. (The inside fire door is porcelain enameled finish.). Note that this double door construction does away with chipping and crazing, so common on heaters with only a single feed door.

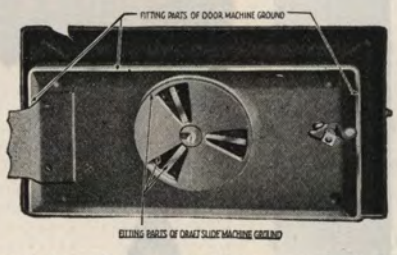
—Specifications—

Nos.	201	221
Height, overall, inches	46	48
Heating capacity, rooms	3-5	4-6
Use No. 94 Stove Board, size	28x34	30x38
Width, inches	28	32
Depth, inches	19	20
Firepot, inches	20x12x9½	22x13x9½
Feed Door Opening, inches	8x16	11x18
Ash Door Opening, inches	7x16	6½x18
Smoke Pipe, inches	1	7
Shipping weight, pounds	390	475

SPECIAL LIGNITE GRATE EQUIPMENT FOR LW221 MARATHON

The Marathon (in the large 22 inch size only) can be furnished with special grates for lignite coal as illustrated above These grates were designed and sponsored by a University Professor who has made a life-long study of burning lignite. Exhaustive tests have proven that these grates will save nearly 60 per cent of the coal which normallly drops into the ash pit when lignite is used; only 5 per cent of this will be unburned, combustible fuel compared to 40 per cent when other grates are used. These grates will easily hold fire over-night—almost an impossibility with other types. Note that a set of these grates really consists of seven bars, so placed as to be directly under the spaces between the upper bars. In this way free circulation is assured without excessive loss of fuel.

Extra large check damper that can be opened or closed for control of fire.



Ash Pits and Ash Doors as well as Ash Door Slides are machine ground insuring perfect fitting joints, making regulation of fire easy.

THE SUNNY BOY CIRCULATOR

See Full Description On Opposite Page

ONE LOOK—

and your customers will buy!

The Sunny Boy presents a clean-cut modernistic appearance. Three burnings of porcelain enamel on ingot enameling iron make this lovely walnut finish absolutely permanent. Even with the doors closed you enjoy the cheerful glow of the fire. The Sunny Boy cabinet is asbestos lined.

When your customers see the Sunny Boy, you won't have to sell them on its beauty . . . they'll "get" that in their very first glimpse of it.

Special attention is called to the heat-radiating flanges on fire pot and dome, projecting smoke canopy, hot blast feature, heavy angle iron base (not cast iron) and the extra large fire door opening.

The Sunny Boy is just as beautiful when the doors are open as when they are closed. When the doors are open a perfect flood of radiant heat pours out into the room. The ornamental front grille can be raised and latched to facilitate cleaning of the heating unit.

SUNNY BOY CIRCULATOR

Numbers	A-118	B-120	C-122
Heating capacity, rooms	2-3	4-5	4-6
Height of cabinet, inches	43	45	48
Width of cabinet, inches	28	30	32½
Depth of cabinet, inches	20	22	23½
Length of fire pot, inches	18	20	22
Width of radiating flanges, inches	¾	¾	⅞
Weight of fire pot, lbs.	5	70	95
Fire Door Opening, inches	9x15	*11x17	*12x19
Size of pipe collar, inches	7	7	7
Vapor Tank	Copper	Copper	Copper
Ash Pan, large, gauge	18	18	18
Net weight complete, lbs.	370	450	555
Shipping weight (crated), lbs.	420	510	620
Each	$77.00	$95.00	$112.00

*Extra large fire door opening.

CIRCULATING HEATERS

WASHINGTON

	No. 220	No. 218
Height	45 in.	43 in.
Fire Pot	20x12x10 in.	18x11x9 in.
Feed Door Opening	16x9½ in.	13½x8½ in.
Ash Door Opening	13x6 in.	12x5 in.
Pipe Collar	7 in.	7 in.
Height, Floor to Center of Pipe Collar	33 in.	31 in.
Floor Space	28x21 in.	26x20 in.
Weight	375 lbs.	300 lbs.
Heats	5-6 Rooms 5000-6000 cu. ft.	4-5 Rooms 4000-5000 cu. ft.
Each	$66.00	$53.00

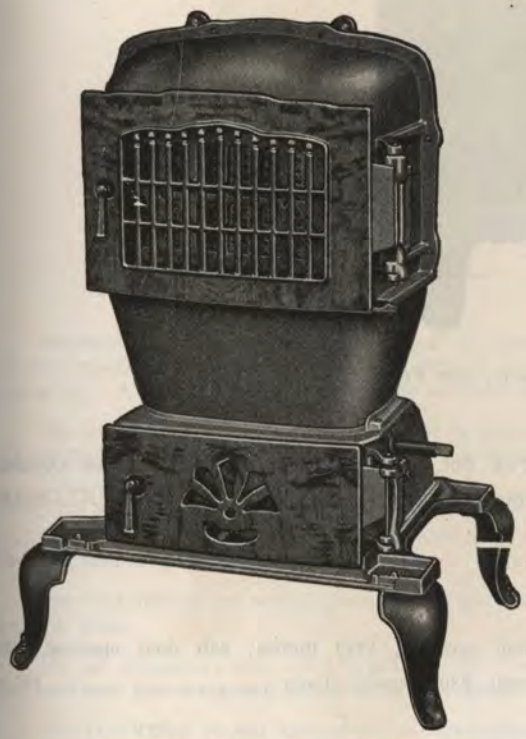
WASHINGTON FURNACES

200 SERIES

This series of Washington Furnaces has been added to the line to meet the demand for furnaces with oval firepots in most attractive and modern cabinets. Each one of these furnaces has been designed and constructed so as to incorporate all of the latest features of efficiency and economy of operation in combination with the most artistic design and beauty of appearance of the outer cabinet.

Attractive Furniture

The cabinets of this series of Washington Furnaces are of modern furniture design, constructed with new improved one-piece cast-iron curved top with only one loose grille. For this reason, these cabinets will harmonize with the most attractive furniture in modern homes. They are finished in vitreous porcelain enamel grained Burl walnut with two-tone maple trim.



All Cast-Iron Inner Construction

The inner construction of these furnaces is all cast-iron, including the main bottom and the ash pit. Angle iron and sheet steel construction of main bottom and ash pit is **NOT** used. The all cast-iron inner construction insures long and satisfactory heating service combined with efficient and economical operation. The arched dome radiating combustion chamber is built in two sections in order to allow for expansion and contraction. All joints are extra deep and are made up in genuine asbestos cement.

Radiating Combustion Chamber

The pipe collar is in the back. The top of the combustion chamber therefore extends up above the pipe collar, which holds the heat, and holds the smoke and soot immediately over the fire until practically all the smoke and soot is consumed and the heat is circulated throughout the building instead of allowing a large portion of this heat to go up the chimney with the smoke as occurs in other circulating heaters where the pipe collar is on top instead of in the back. The pipe collar being in the back also eliminates the necessity of using an elbow when connecting these furnaces directly to a fireplace.

Extra Large Feed Doors

The feed doors are made extra large in order that fuel may be added in large sizes and particularly in order that large sticks of wood may be fired when it is desirable to burn this fuel rather than coal. The feed doors are equipped with mica panels through which the cheerful glow of the fire is visible at all times. Ash doors are likewise large, and ash pits have been designed with ample capacity.

Duplex Grates for Coal or Wood

Each one of these furnaces is manufactured with heavy duplex grates for burning soft coal or wood. When required, each furnace can be furnished with two triangular bar grates for burning hard coal.

Cast-Iron Elbow

Each furnace is equipped with a cast-iron elbow in which is located a check-draft register which insures control of the fire at all times.

Cast-Iron Water Pan In the Back

The cast-iron water pan in each one of these furnaces is scientifically located in the back panel at the correct height to insure proper addition of a healthful amount of moisture to the circulating warm air.

Curved Cast-Iron Front

The main front of the cabinet of each one of these furnaces is attractively curved as is the top of the cabinet. Front, top, and legs are constructed entirely of cast-iron. This type of construction insures absolute sturdiness and rigidity of the outer cabinet, and insures a more attractive and modern design, as well as long life.

Louvers in Side Panels

Practically all of the air for circulation comes in through the open bottom of these furnaces. For this reason, it has a longer travel across the heating unit and is therefore more intensely heated and circulated at a more rapid rate than in other circulating heaters in which all of the air is taken in at the sides. In addition to the openings in the bottom of these furnaces, there are four louvers in each side panel through which auxiliary air is admitted by means of which the efficiency of circulation is increased. These louvers also deflect radiated heat from the fire pot downward on to the floor near these furnaces.

CIRCULATING HEATERS

LIBERTY

New Arch Top, Walnut Enameled Circulator, Cast Front and Top.

No. 620A—Height, 44 inches; width, 25¼ inches; depth, 17½ inches. Fire Pot, 18½x11½x8 inches; Feed Door Opening, 16x8¼ inches; Ash Door Opening, 13½x6 inches. Smoke Pipe, 7 inch. Shipping weight crated, 350 pounds. Each.....$59.00

No. 238—Height, 43 inches; width, 24½ inches; depth, 18 inches; feed door opening, 13x8 inches; ash door opening, 14x6 inches. Size pipe 7 inches. Size of fire pot 18x12x8 inches. Shipping weight, 330 pounds. Each $57.00

No. 612J—Height, 37 inches; Width, 17 inches; Depth, 13½ inches. Fire Pot, 10½x8x6 inches. Feed Door Opening, 9x6 inches. Ash Door Opening, 9x5 inches. Smoke Pipe, 6 inch. Shipping weight, crated, 165 lbs. Each $31.90

CIRCULATING HEATERS

LIBERTY

This cut shows only the inner unit, without casing

We have perfected the new style oblong fire bowl which is HEAVILY RIBBED AND CORRUGATED in such a manner that the expansion is evenly distributed. This is the most advanced step toward preventing fire bowls from cracking and burning out. Also our fire bowls are much heavier, weighing from 10 to 20 pounds more than other makes.

The inside unit which is often red hot is placed at a safe distance from the enameled shell. This prevents DISCOLORING OR BLISTERING of the enamel when the heater is properly fired.

EXTRA LARGE FEED DOORS which make it easy to fire up with wood or coal.

All our circulators, have DUPLEX grates with cogs on the outside of the ash pit where they are free from the clinkers and ashes that clog up other style mechanisms. This feature also makes it easy to repair or replace.

Fire door frames are made separate from the fire dome, this allows for expansion and prevents the door from pulling away from the dome.

All our circulators have BEAUTIFUL CAST IRON GRILLED TOPS, while many other heaters on the market have thin sheet steel tops that warp and sag when heavily fired.

The LOUVERS on our circulators are scientifically designed and placed so as to insure rapid circulation and to ventilate the enamel shell.

All models, including the smallest size, have the ash door and ash door frame SMOOTHLY GROUND, which enables our circulators to HOLD HEAT LONGER.

New style, oblong HIGH-RIBBED FIRE DOME comes up near the grilled top of the circulator.

Our VAPOR PANS are cast iron, concealed in back, easily filled with water without removing pan from casing.

Heavy cast iron bases which prevent the inside unit from moving in the outer shell. This feature keeps the doors in line so that they will open and close easily.

The fire grates are easily replaced. Every dealer will appreciate this feature.

Large ash pits which make the fire grates last longer. The low prices on our circulators are made possible by MASS PRODUCTION and POPULAR DEMAND.

SUNNY BOY WASHINGTON

Walnut Enamel Finish

Duplex Grates For Coal or Wood

No. 610—Walnut finish; Duplex Grates; Inside of Fire Bowl, 18x10½ inches; 7½-inches deep; Extreme height 46 inches; Floor space 28x24 inches; Feed Door Opening 14x7½ inches; Ash Door Opening 14x6½ inches; Size pipe 7 inches. Weight crated 335 pounds. Each $55.00

WASHINGTON FURNACE

NO. 610 SUNNY BOY

To meet the demand for our distributors for a Washington Furnace with an oval fire pot in a most attractive and up-to-date cabinet, our designers and engineers have produced the No. 610 Sunny Boy Washington Furnace incorporating all of the latest features of efficiency and economy of the inner unit combined with artistic design and beauty of appearance of the outer cabinet.

Radiating Combustion Chamber

The pipe collar is in the back. The top of the combustion chamber therefore extends up above the pipe collar, which holds the heat and holds the smoke and soot immediately over the fire until practically all of the smoke and soot is consumed and the heat is circulated throughout the building instead of allowing a large portion of this heat to go up the chimney with the smoke as occurs with other Furnaces where the pipe collar is on top instead of in the back. The pipe collar being in the back also eliminates the necessity of using an elbow when connecting this Furnace direct to a fire place.

Large Feed Door

The feed door of the No. 610 Washington Furnace is made large in order that fuel may be added in large sizes, and particularly in order that large sticks of wood may be fired when it is desirable to burn this fuel rather than coal. In addition, the fire door of the No. 610 Sunny Boy Washington Furnace is equipped with mica panel in order that the cheerful glow of the fire may pass out to make the room more attractive and home like.

Cast Iron Inner Construction

The inner construction of the Sunny Boy Washington Furnace is all cast iron above the fire pot, and is made to insure long and satisfactory heating service combined with economical and efficient operation. The combustion chamber of this Furnace is built in four sections in order to allow for expansion and contraction. This type of construction insures against any possibility of warping or cracking, and in this way eliminates any possibility of trouble. All of the joints in the Sunny Boy Washington Furnace are made up in genuine asbestos cement, which insures the best type of Furnace construction known. These joints will not leak smoke or gas and will not open up due to expansion and contraction.

GRATE

The Sunny Boy Washington Furnace is manufactured either with duplex grate for burning soft coal or wood, or with two interchangeable tri-bar grates for burning hard coal. Unless otherwise specified the duplex grate will be shipped.

Cast Iron Elbow

The Sunny Boy Washington Furnace is equipped with a cast iron elbow in which is located a check damper which insures control of the fire at all times.

Grained Walnut Enamel Finish

The Sunny Boy Washington Furnace is manufactured only in grained walnut porcelain enamel finish, and for this reason it will harmonize at all times with the most attractive furniture in the finest homes. All of the sheet metal parts of the outer cabinet of the Sunny Boy Washington Furnace are grained walnut porcelain enamel on Armco Ingot Iron which is recognized as the best material in the world as a carrier for a porcelain enamel finish.

Hot Blast Fire Box

The Sunny Boy Washington Furnace is fitted with our featured hot blast fire box. Air is drawn directly from the room through two hot blast ducts at each of the lower corners of the fire door casting. This auxiliary air is passed directly across the top of the blazing fuel where it acts as a smoke consumer, burning up all of the gases in the fuel and the smoke and thus increases the heating efficiency of this Furnace.

Cast Iron Water Pan in the Back

As in our other Washington Furnaces the cast iron water pan in the Sunny Boy Washington Furnace is scientifically located in the back at the correct height to insure proper addition of a healthful amount of moisture to the circulating warm air.

Fire Glow Visible At All Times

The attractive cabinet of the Sunny Boy Washington Furnace is equipped with double outside doors which extend all the way down, and in these doors are located attractive and graceful panels of "Metal-Lace." Through these panels the fire glow is visible when the outer doors of the cabinet are closed, as well as when the outer doors of the cabinet are open, at which time the fire glow is apparent through the mica feed door.

Cast Iron Columns

The two front corners of the Sunny Boy Washington Furnace are fitted with attractive cast iron columns which lend dignity and grace to the attractive appearance of this Furnace, and which also make for rigidity of this beautiful cabinet.

Louvers in Side Panels

Practically all of the air that is taken into the Sunny Boy Washington Furnace for circulation is taken in through the open bottom of this Furnace, and for this reason it has a longer travel across the heating unit and is therefore more intensely heated and is circulated at a more rapid rate than in Furnaces in which all of the air is taken in at the sides.

In addition to the openings in the bottom of this Furnace there are four louvers in each side panel through which auxiliary air is admitted by means of which the efficiency of circulation of this Furnace is increased.

The heated air is passed out at the top of this Furnace through a most attractively designed cast iron grill.

Comfortable Floor Warmth

The construction of the Sunny Boy Washington Furnace is such that it will warm the floor immediately in the vicinity of the Furnace.

CIRCULATING HEATERS

LIBERTY

We have perfected the new style oblong fire bowl which is HEAVILY RIBBED AND CORRUGATED in such a manner that the expansion is evenly distributed. This is the most advanced step toward preventing fire bowls from cracking and burning out. Also our fire bowls are much heavier, weighing from 10 to 20 pounds more than other makes.

The inside unit which is often red hot is placed at a safe distance from the enameled shell. This prevents DISCOLORING OR BLISTERING of the enamel when the heater is properly fired.

EXTRA LARGE FEED DOORS which make it easy to fire up with wood or coal.

All our circulators, have DUPLEX grates with cogs on the outside of the ash pit where they are free from the clinkers and ashes that clog up other style mechanisms. This feature also makes it easy to repair or replace.

Fire door frames are made separate from the fire dome, this allows for expansion and prevents the door from pulling away from the dome.

All our circulators have BEAUTIFUL CAST IRON GRILLED TOPS, while many other heaters on the market have thin sheet steel tops that warp and sag when heavily fired.

The LOUVERS on our circulators are scientifically designed and placed so as to insure rapid circulation and to ventilate the enamel shell.

All models, including the smallest size, have the ash door and ash door frame SMOOTHLY GROUND, which enables our circulators to HOLD HEAT LONGER.

New style, oblong HIGH-RIBBED FIRE DOME comes up near the grilled top of the circulator.

Our VAPOR PANS are cast iron, concealed in back, easily filled with water without removing pan from casing.

Heavy cast iron bases which prevent the inside unit from moving in the outer shell. This feature keeps the doors in line so that they will open and close easily.

The fire grates are easily replaced. Every dealer will appreciate this feature.

Large ash pits which make the fire grates last longer.

The low prices on our circulators are made possible by MASS PRODUCTION and POPULAR DEMAND.

Swelled Front, Cast iron, Walnut Enamel finish, heavy duplex grates.

No. 818—Height, 43 inches; Width, 23¾ inches; Depth, 16 inches. Feed door opening, 13x7½ inches. Ash Door opening 11½x-5½ inches, Size pipe 6 inches. Shipping weight — pounds. Each $52.00

No. 820—Height, 45 inches; Width, 25½ inches; Depth, 17½ inches. Feed Door opening 16x8 inches. Ash Door opening 13½x5½ inches. Size pipe, 7 inches. Size of fire pot 19¼x12x8 inches. Shipping weight 360 lbs. Eacn $60.00

CIRCULATING HEATERS

ANCHOR

HEALTHFUL HEAT

Health and Happiness, Comfort and Convenience—these are enjoyed in ANCHOR heated homes.

The scientific principle of heating upon which ANCHOR Heaters operate—that of circulating moist, warm air—is conceded by authorities to be the most healthful method. The air in an ANCHOR heated home is in motion, thereby imparting a feeling of freshness and insuring a rapid change of atmosphere, with the maintenance of uniform temperature.

Plants thrive in ANCHOR heated homes, because of the balmy air circulated by this most modern method.

Boiler plate joints of ANCHOR Heaters are acetylene welded, which fuses the metal into one piece and positively prevents the leakage of smoke, gas or dust into the house.

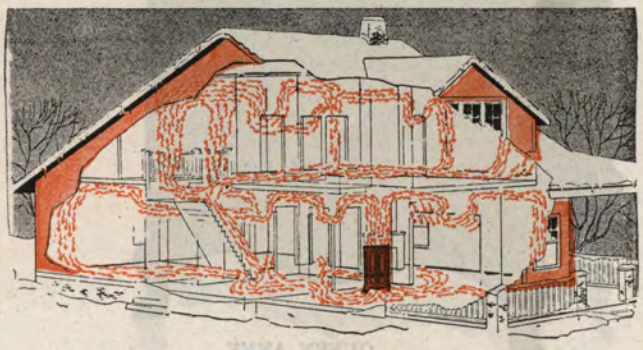
SAVES FUEL

A large saving results from the automatic operation of the ANCHOR down-draft, hot-blast, heat intensifier. Its action serves to extract practically all of the heat units from the coal by burning the volatile gases that ordinarily escape up the flue. It cokes the coal and provides a steady, intense fire. So efficient is the operation of this device that a fire in the ANCHOR may actually be kindled from the top.

IT'S GREAT TO GET UP IN A WARM HOME

Everyone who has ever tended a fire knows the great convenience and comfort of a heater that does not require frequent rebuilding of the fire . ANCHOR Heaters are **guaranteed to** hold fire overnight. The ash pit door and frame are ground paper tight, permitting perfect control of the fire at all times.

HEATS THE WHOLE HOUSE



Showing the natural circulation of air currents in the ANCHOR heated home.

Because it heats the whole house by circulating moist, warm air, an ANCHOR Heater will replace a number of stoves, and provides an even flow of heat to every room. Thus you get furnace heat at stove cost.

To avoid expensive and discomforting breakdowns of your heating plant, you should insist upon a **Written guarantee** that the firepot will withstand hard firing in extreme weather.

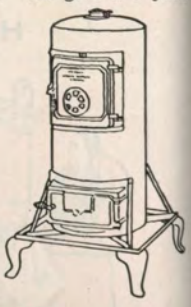
ANCHOR firepots are tile lined and **Guaranteed** (in writing) for 5 years.

CIRCULATING HEATERS

ANCHOR

Vitrified tile-lined firepot guaranteed for five years.

For over 35 years, ANCHOR has used vitrified tile linings of high quality conforming to U. S. Government standards. With tens of thousands of Anchor Heaters in use, replacements are few. We give a 5-year written guarantee, but Anchor firepots last indefinitely.



Guaranteed to hold fire over-night—boiler plate construction.

Heavy, boiler plate steel used in Anchor Heaters withstands much higher temperatures than cast iron. The fact that steel is used in large installations where utmost reliability is demanded, such as office buildings, battleships, and furnace cupolas in which cast iron is actually melted, should recommend Anchor construction to every heater prospect.

QUEEN ANNE

—SPECIFICATIONS—

CABINET—

Height, 52 inches; width, 25 inches; depth, 25 inches; floor space required, 28 in. sq. Warm air outlet, 374 sq. in. Cold air inlet 266 sq. in. Water pan capacity, 2 gal. Evaporating surface, 274 sq. in. Heating capacity, 12,000 cu. ft. in home or store with divided space, or 18,000 cu. ft. in open space such as ball room or hall.

HEATING ELEMENT—

Height, 43½ inches; width, 18 inches; firepot, 16 in. wide at top and bottom; depth, 13½ in.; coal carrying capacity. 9-10 bu.; radiating surface, (primary) 2800 sq. in.; total 6132 sq. in. Element equipped with down draft hot blast tube. Flat, ball bearing, draw center grade, 16 in. diam. Feed door opening, 12⅛ in. high; 9⅜ in. in width. Ash door opening, 7⅞ in. high; 14⅛ in. wide. Feed door equipped with smoke curtain.

Queen Anne—Weight each, 475 lbs. Each $132.00

TUDOR

—SPECIFICATIONS—

CABINET—

Height, 48¾ inches; width, 23 inches; floor space required, 25 in. sq. Warm air outlet, 273 sq. in. Cold air intake, 232 sq. in. Water pan capacity, 1 gal.

HEATING ELEMENT—

Height, 38½ inches; diameter, 16½ inches; coal carrying capacity, 7-10 bu.; radiating surface, (primary) 1800 sq. in.; total radiating surface, 5,600 sq. in. Grate surface, 153 sq. in. Diameter of fire pot, 15 in.

Tudor—Weight, each, 320 lbs. Each $93.50

CIRCULATING HEATERS

ANCHOR

ACETYLENE WELDED JOINTS

The oxyacetylene process used in the manufacture of Anchor heaters fuses the joints and thereby safeguards against any possibility of the seams opening as the metal expands and contracts. We could save money by electric welding, but we prefer to spend this extra money to insure you of getting a gas smoke and dust tight heater.

HOT BLAST INTENSIFIER

This is a hollow, metal tube suspended in the combustion chamber. Air admitted through this tube is pre-heated as it flows downward, causing it to readily mix with the unburned or volatile gases as it enters the heater. This action provides extra heat and reduces smoke.

In ordinary heaters these unburned gases are wasted up the flue.

SUNSHINE

—SPECIFICATIONS—

CABINET—
Height, 48¾ inches; width, 23 inches; floor space required, 25 in. sq. Warm air outlet, 273 sq. in. Cold air intake, 232 sq. in. Water pan capacity, 1 gal.

HEATING ELEMENT—
Height, 38½ inches; diameter, 16½ inches; coal carrying capacity, 7-10 bu. Radiating surface, (primary) 1800 sq. in.; total radiating surface, 5,600 sq. in. Grate surface, 153 sq. in. Diameter of fire pot, 15 in.

Sunshine—Weight, each, 320 lbs. Each $93.50

BRILLIANT

—SPECIFICATIONS

CABINET—
Height, 43 inches; width, 27 inches; depth, 20 inches; floor space required, 20x7 inches; warm air outlet, 270 sq. in.; cold air intake, 185 sq. in.; water pan capacity, 2 quarts; heating capacity, 6,000 cu. ft.

HEATING ELEMENT—
Height, 33 inches; width, 18 inches; depth, 10 inches; fire pot, 16x8 inches; radiating surface, (primary) 1$58 square inches; total radiating surface, 3056 square inches. Firepot holds ¾ bushel of coal.

Brilliant—Weight, each, 240 pounds. Each $67.90

CIRCULATING HEATERS

"ARISTOCRAT"

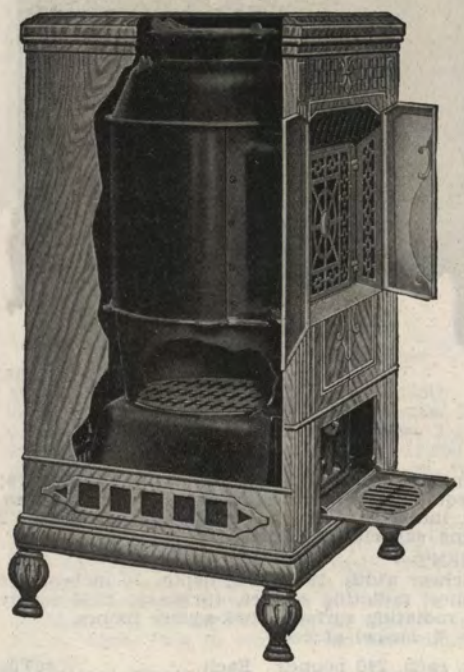
Exceptional beauty of design, has been incorporated with utmost efficiency in operation to make the Aristocrat the outstanding circulating heater of the year. The Aristocrat is not only a modern up-to-date heating system but it is an attractive addition to the finest furniture and will give to the home that air of distinction so much desired.

Patterned along the lines of the late radio models, the design of the Aristocrat exhibits the finest cabinet-maker's artistry. Its beauty secures admiration from the severest critic and will bring joy to the heart of any woman who takes pride in the appearance, as well as the comfort of her home.

In building the inside heating element of the Aristocrat, every precaution has been taken to assure many years service and long life as well as exceptional capacity. Its many features, described on the following page, are convincing proof of its exceptional qualities.

No. 488E—Aristocrat—Finished in Grained Walnut Porcelain Enamel. Shipping weight, 485 lbs. Each $98.00

‡**Magazine for Hard Coal and Coke**—Each $6.00



"JUST WHAT THE NAME IMPLIES—ARISTOCRAT OF CIRCULATING HEATERS"

When desired the cheerful glow of the fire in an Aristocrat may be seen by opening the casing doors. Inside these doors is a large fire door with mica windows.

SPECIFICATIONS

Height, inches	50
Width, inches	25
Depth, inches	25
Feed Door, inches	11x12
Dia. of Comb. Chamber, in.	18½
Use No. 89 Stove Board size	33x33
Humidifier capacity, gallons	½
Reversible Collar, inches..	7

CIRCULATING HEATERS

"THE CRUSADER"

"A STAUNCH AND STURDY ANTAGONIST OF WINTER'S COLD"

THE HARDWICK CRUSADER is the realzation of all that is modern and progressive in heating appliances, and combines a design that is artistic and beautiful with a heating capacity unknown in the old-fashioned heater.

THE CRUSADER will produce abundant moist heat sufficient for two or three average sized rooms, and it anticipates the requirements of those who demand convenience and economy of operation.

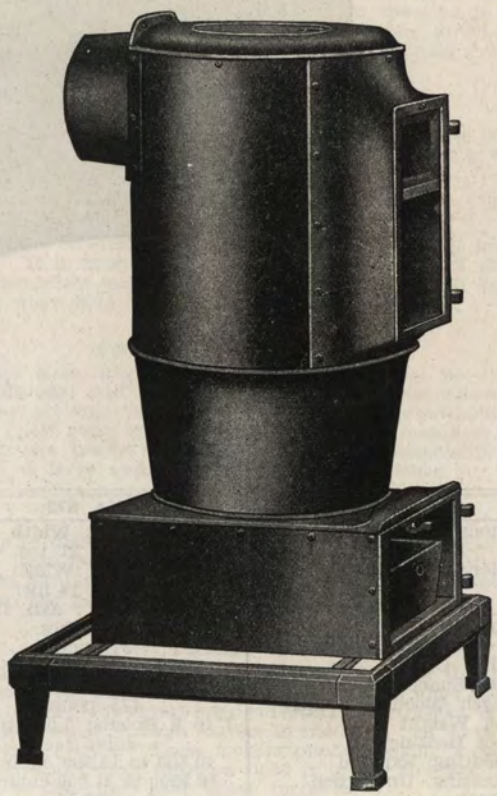
The remarkably low price of the CRUSADER places this attractive and desirable circulator within reach of those of moderate circumstances and widens its field of usefulness.

With its beautiful walnut enamel finish the CRUSADER will harmonize with its surroundings and provide a wholesome atmosphere of warmth and comfort.

No. 389—Walnut Enamel Finish. Each $51.90

The CRUSADER occupies truly a commanding position among circulating heaters and will meet the demand for a moderate sized heater of this type.

The CRUSADER is furnished in walnut enamel and comes regularly equipped with deep ash pit and convenient ash pan; round shaker grate with draw center, cast elbow with register draft, and humidifier center, and humidifier for moistening the warm air.



SPECIFICATIONS

Extreme height, inches	42
Width, inches	20
Depth, inches	20
Diameter Fire Pot at Door, inches	14
Diameter Fire Pot at Grate, inches	11½
Fire Door Opening, inches	9x11
Use No. 89 Stove Board, Size, in.	28x28
Smoke Collar, inches	6
Shipping weight, lbs.	225

PRESIDENT WASHINGTON
WOOD BURNING CIRCULATORS
HOT-BLAST SUPER-FURNACE

Cheery Fireglow Window. Scientifically built for double heat capacity. Two-Tone Burl Walnut Cabinet. Correctly Designed with Extra Large Radiation Surface.

	No. 879	No. 857	No. 835
Dimensions—Cabinet	Height, 43 ins.; Width, 31 ins. Depth, 21 ins.	Height, 40 ins.; Width, 27 ins. Depth, 19 inches	Height, 37 ins.; Width, 25 ins. Depth, 18 ins.
Dimensions—Combustion Chamber	Height, 29 ins; Width, 25 ins. Depth, 14 ins.	Height, 26 ins.; Width, 21 ins. Depth, 13 inches	Height, 23 ins.; Width, 18 ins. Depth, 12 ins.
Size of Doors	Feed, 14x12 ins.; Ash, 12x6 ins.	Feed, 12x10 ins.; Ash, 10x6 ins.	Feed, 10x9 ins.; Ash, 9x5 ins.
Pipe Collar	7 inches	7 inches	6 inches
Height, Floor to Center of Pipe Collar	31 inches	28 inches	25 inches
Floor Space Required	35x24 inches	31x23 inches	28x22 inches
Length Wood will burn	24 inches	20 inches	18 inches
Shipping Weight	475 pounds	400 Pounds	325 Pounds
Residence Heating	7 to 9 Rooms: 7,000 to 9,000 cubic feet	5 to 7 Rooms: 5,000 to 7,000 cubic feet.	3 to 5 Rooms: 3,000 to 5,000 cubic feet
Store Heating, Exposed	10,500 to 13,500 cubic feet	7,500 to 10,500 cubic feet	4,500 to 7,500 cubic feet
Store Heating, Unexposed	16,8000 to 21,600 cubic feet	12,000 to 16,800 cubic feet	7,200 to 12,000 cubic feet
Price, each	$83.00	$73.00	$67.00

PRESIDENT WASHINGTON
WOOD BURNING CIRCULATORS

Double-Ribbed Cast-Iron Heating Unit

The President Washington Hot-Blast Wood-Burning Super-Furnace is vastly superior in heating surface and capacity. The extra heavy, double-ribbed, all cast-iron, inner heating unit with fins inside and outside, insures two or three times the radiation area of the ordinary heater of the same size. The increased radiation area gives increased heating capacity. Unless a stove has sufficient radiation surface, it cannot give off the efficient and economical amount of heat from the wood burned.

Constructed with Down-Draft Hot-Blast

On the front of the heating unit immediately underneath the fire glow window is a down-draft hot-blast as illustrated in the cut below.

It is well known that the down-draft hot-blast is the most scientific, economical, and efficient method of burning wood, because it burns all the gases generated by the combustion, which would otherwise be wasted by passing up the chimney.

The velocity of the hot blast of air which is heated to over six hundred degrees forms an instantaneous chemical union for perfect combustion of all of the wood which is wasted in other stoves in which the hot-blast down-draft is not used.

Capacity and Rating

In recent years, very little thought has been given to anything but price in the selection of a furnace for heating the home. For this reason the capacity of the furnace and its ability to heat the home in a satisfactory manner has been sadly neglected. The rating of these furnaces insures that the proper size can be selected to give entirely satisfactory heating service combined with efficient and economical operation.

The most important consideration is that the furnace shall have ample capacity to heat the home in which it is to be installed, during the coldest weather. If a size too small is selected, it will be necessary during cold weather to force or overfire the furnace. Keen competition often causes the installation of a furnace a size or two sizes too small for the house to be heated, which does not give satisfactory service to the customer. This is to be avoided.

Be sure to sell the correct size for the house to be heated, as specified by the rating.

Heretofore, lack of attention to this matter has been due to the lack of reliable scientific information on furnace performance under working conditions. The information which is given regarding rating of these furnaces is accurate and can be relied upon.

Double-Ribbed Combustion Chamber

The combustion chamber is made of tough, gray cast-iron with heavy fins both inside and outside. The front, back, and left end of each size is constructed in two pieces to allow for expansion and contraction, and to eliminate trouble from breakage or cracking of these parts. The combustion chamber is extra large with plenty of space for proper mixture of air, gases, and smoke to promote complete combustion. The pipe collar is in the back. The top of the combustion chamber therefore extends up above the pipe collar, which holds the heat, and holds the soot and smoke immediately over the fire until practically all of the smoke and soot is consumed and the heat is circulated throughout the building, instead of allowing a large portion of the heat to go up the chimney with the smoke as occurs in other furnaces where the pipe collar is on top instead of in the back. The pipe collar being in the back also eliminates the necessity of using an elbow when connecting these furnaces direct to a fireplace.

Extra Large Doors

One of the most important features of all three sizes is the extra large feed doors and ash doors used. The feed doors on all three sizes are made extra large in order to make firing easy, and in order to permit firing of large sticks of wood.

Cast-Iron Elbow

A new, improved, cast-iron loose elbow equipped with an oversize check-draft register, and equipped with a cast-iron, turn damper, is supplied with all sizes. This elbow insures proper control of the fire at all times when operated in conjunction with the hot-blast down-draft and the direct-draft damper in the ash pit door. These furnaces will hold fire over night.

Cast-Iron Water Pan in the Back

The water pan is located in the back panel at the correct height to insure proper addition of a healthful amount of moisture to the circulating warm air.

Beautiful Cabinet

The cabinet of these furnaces is designed to resemble modern furniture. It is finished in a beautiful, two-tone, burl walnut, vitreous porcelain enamel, easily and quickly cleaned with a dry cloth when cold.

Convertible Coal Fire-Box

All three sizes may be equipped with this coal fire-box at slight additional cost when desired. The fire-box consists of four heavy sections which are dropped in place without any bolting. These parts are removable through the feed-door. The grate bars are heavy, reversible, duplex type, satisfactory for any fuel. A large and roomy ash pan is furnished.

Removable Grille Top

The top of these models is constructed of one-piece cast-iron with two loose, removable, top grilles which may be lifted off for ease in cleaning and dusting, and also for heating water or cooking on the flat top of the inner heating unit.

Louvers Increase Circulation

Cold air intake is through the bottom in order to provide long travel across the heating unit, and therefore, more intensely heat the air. However, supplementary cold intake is provided on all models through louvers in the front and on the left end and in the back. These louvers provide auxiliary cold air intake and also deflect radiated heat from the fire-box downward on to the floor near these furnaces.

WASHINGTON WOOD FURNACE

GRAINED WALNUT FINISH

For Wood

The No. 25 Washington Furnace is the best wood-burning furnace now on the market and will easily take a 25-inch stick of wood. This furnace possesses all of the up-to-date features for heating with circulating heat and burns wood better than any other furnace in the world.

The cold air is sucked or drawn into the furnace from all corners of the floor through the bottom. This air is intensely heated and forced out at the top through the cast-iron, open grill-work on top of the furnace. This process continues until the entire hose is heated. The bottom of the furnace is open so that all of the air that is taken in for circulation comes in at the bottom and has a longer travel across the heated portion of the heating unit.

Patented Foot-Warmer

This furnace is equipped with our patented foot-warmer, Patent No. 1,647,828. This is a special, patented feature not found on any furnaces except Washington furnaces. People, especially children, coming into the house with cold or damp feet can in this manner warm their feet quickly.

The right end is fitted with a large outside double door, and the heating unit has a large, cast-iron, front feed door and large ash door with screw register draft. The interior heating unit has an all-cast-iron bottom and is cast-iron lined about twelve inches high with heavy castings. The interior heating unit also has cast-iron top.

The Pipe Collar Is In The Back

The pipe collar's being in the back eliminates the necessity of using an elbow when connecting this furnace directly to a fireplace.

No. 25W—Size pipe 7 inch. Height 35½ inches. Length 32½ inches; Width 21½ inches; Length wood 25 ins. Wt., crated 300 pounds. Each $49.00

CANNON STOVES

WASHINGTON CANNON

FOR COAL

An extra heavy, well mounted, all cast iron, substantial Cannon Heater for coal. Shaking grate with draw center, nickeled draft register in ash door. Griddle hole on top. Mounted on heavy cast-iron leg base.

DESCRIPTIVE DIMENSIONS

Nos.	25WC	35WC
Firepot, inches	15	17
Size pipe, inches	6	7
Height, inches	33	40
Weight uncrated, pounds.	125	190
Each	$22.50	$33.00

With Drum

No.	35WCD
Fire Pot, inches	17
Size Pipe, inches	7
Height, inches	58
Weight uncrated, pounds.	200
Each	$37.30

Summit Cannons.

The Summit Cannon Heater is exceptionally well built, it is substantial, plain in design and extra heavy. For use in store, office, shop, warehouse, garage—in fact, wherever a big, strong, durable and economical heater is wanted.

Nos.	18	20	24
Firepot, inches	18	20	24
Height, inches	49	51	57
Size of collar, inches	7	7	8
Weight, each, lbs.	325	400	630
Each	$53.00	$62.00	$94.00

We can also furnish Summit Cannons equipped with double heating drums. These are made of polished steel and have cast iron baffle plates.

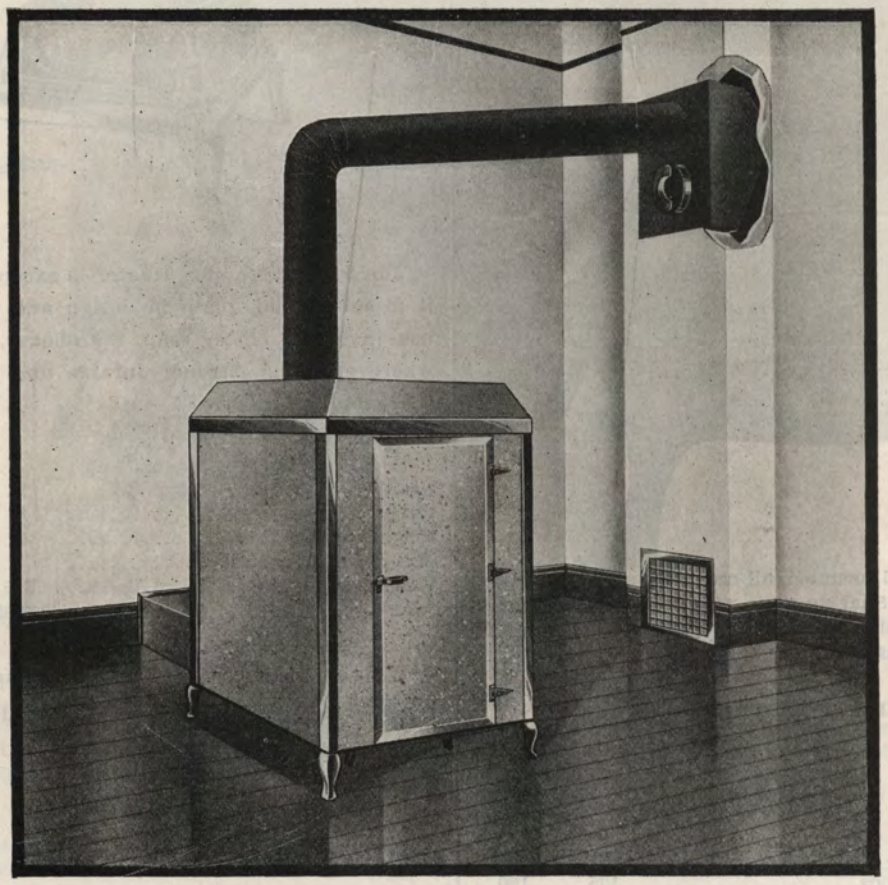
Summit Cannons with Drums.

Nos.	20D	24D
Firepot, inches	20	24
Height, inches	77	87
Size of collars, inches	7	8
Weight, each, lbs.	440	700
Each	$73.00	$109.00

SCHOOL ROOM HEATERS

Every year at this time there is considerable demand for school room heaters that will comply with state educational requirements. The new Northern, illustrated here and on Following Pages meets all State Requirements and represents better value than any other on the market.

The New Northern DeLuxe Heating and Ventilating System for School Rooms Churches and Public Buildings



Meets al State Department Regulations for Schools. It laughs at zero weather. Expels stale air and replaces it with moist air fresh from outdoors.

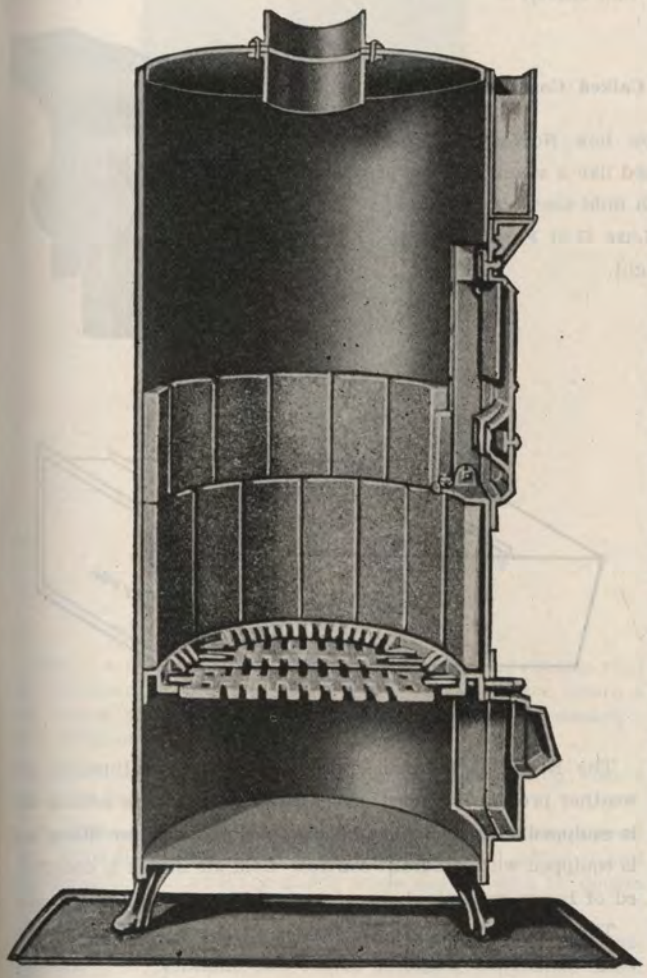
Get Your Dealers to Contact Their Local School Boards—It will mean some nice Business for Them and For Us!

SCHOOL ROOM HEATERS

A Powerful Heater With Attractive Appearance

The new Northern DeLuxe Heating and Ventilating System for School Rooms, Churches and Public Buildings.

Provides comfortable, healthful conditions under which the school children of America may properly develop physically and mentally



Detailed Description and Specifications

HEATER BODY: Detailed description of our New DeLuxe Heater: All steel boiler plate riveted and calked construction. Permanently gas tight. A real fuel saver. Teachers who have used this type of heater say their fuel cost has been cut in half.

FEED DOOR: Extra large doors 11x15 inches, making it easy to operate and control fire bed.

ASH PIT: Extra deep to permit entry of air to all sections of the grate and insuring the grate against burning.

GRATES: The famous locomotive rocker type, same as that used in locomotives on all railroads today.

FIRE POT: Fire clay lined. This is the kind of lining used in our highest priced furnaces. Brick are fitted securely. They will outlast the cast iron fire pot by many years and will replace at only a fractional cost of a cast iron replacement. Brick cost approximately 30c each.

HUMIDIFIER: Placed near the top of the casing. It equalizes the humidity in the rising air column. Permits positive control.

CASING: Finish will not burn, crack, rust or tarnish. Heavy beveled edge, full length door. Rigid square type finish in a soft brown satin ripple. The color harmonizes well with modern school furniture. Inner casing embodies the most approved method of lining casings, permit free air flow, a maximum amount of air wiping surface for rising air and provides best possible insulation.

FRESH AIR INTAKE: Stationary and adjustable louvres. No openings on sides or bottom of intake channel to permit cold air from outside to spread out on the floor to chill the children's feet. A very common cause for cold floors in so many school rooms. Adjustable shut off in intake permits absolute control of flow of air into school room. Intake screen construction of heavy galvanized wire.

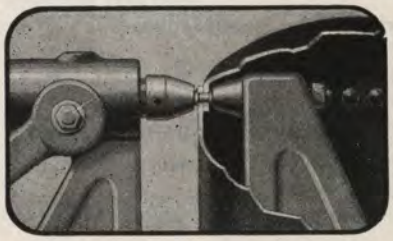
Sizes and Specifications New Northern DeLuxe Heating and Ventilating Systems

	Size of Cabinet	Height Cabinet	Diam. of Furnace	Size of Feed Door	Size of Smoke Pipe	Shipping Weight	Capacity Cubic Ft.	
No. 227	34x34	65-in.	22	11¾x15	8-in.	665 lbs.	7,000 to 15,000	$255.00
No. 247	36x36	65-in.	24	11¾x15	8-in.	800 lbs.	9,000 to 18,000	270.00
No. 277	38x38	65-in.	27	11¾x15	8-in.	950 lbs.	12,000 to 22,000	290.00

Strength of Know nQuality With Riveted Steel

The New Northern DeLuxe Heating System is the result of over thirty-five years of experience in manufacturing heating units by the largest steel furnace manufacturers in the country.

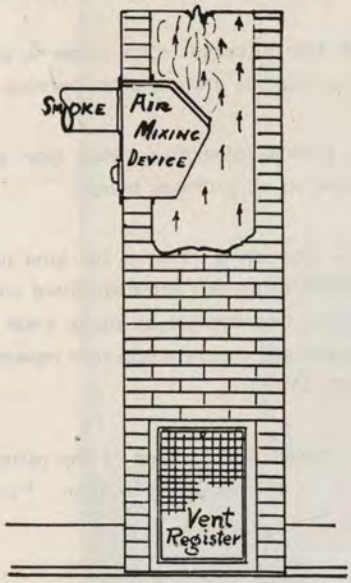
The furnace body is hot riveted and calked, making it absolutely pressure tight. Welding and other methods of construction cannot always be depended upon to hold seams permanently tight. That is why the Interstate Commerce Commission demands that all locomotive boilers be riveted and calked. Ford rivets all of his tri-motored planes for strength and safety.



Riveted and Calked Construction

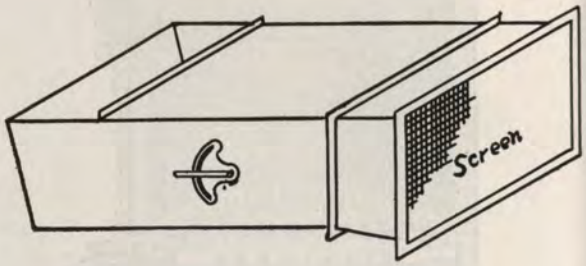
These illustrations show how Northern DeLuxe Systems are riveted and calked like a steam boiler. The use of very heavy open hearth mild steel put together in this way makes Northern DeLuxe Coal Furnaces permanently gas, smoke and dirt tight.

Air Mixing Box and Vent Register



The smoke drum or air-mixer is built into the chimney eight feet about the floor line. A vent register is used at the base of the chimney where foul air is drawn from the room. This provides the most positive means of ventilating school rooms that is known today.

Fresh Air Intake



The Northern DeLuxe Fresh Air Intake is adjustable and weather proof. The open end is covered with wire netting and is equipped with stationary louvres. Damper is close fitting and is equipped with quadrant control. Cold air intake is constructed of heavy galvanized wire for strength and rigidity.

The Northern DeLuxe Heating System can be used successfully with either single or double flue chimney.

Northern DeLuxe School Room Heaters meet State code requirements. They provide moist fresh air circulation which gives health and vigor to every student.

All Heat Generated Is Used In Heating and Ventilating

of the more than 200,000 of these furnaces in use today. Repairs on this number of furnaces have averaged forty cents per furnace over a period of thirty-five years.

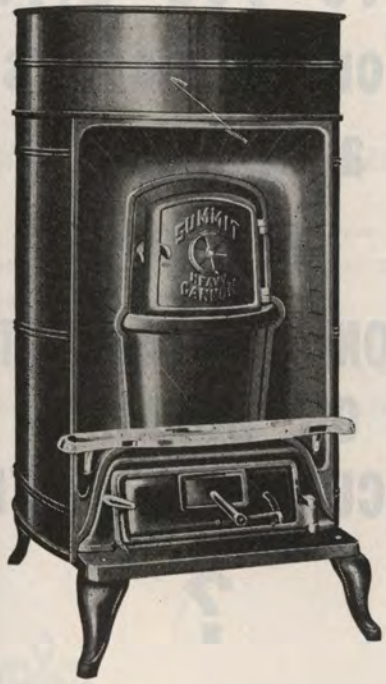
We own and operate our own factories in which we make every pare that goes into our furnace including castings and cases. All parts of the furnace are finished in our own factories which gives us absolute control of the making and forming of every part that goes into Northern DeLuxe Heaters. With many years of practical experience buliding furnaces, we are able to avoid mistakes that cannot be eliminated by those with less experience.

Heat generated by the Northern DeLuxe Heating System serves every purpose in making this school installation one of the best on the market today. Within the casing warm air rises and a constant stream of fresh air enters the room from the outside. Cold air from the floor enters the casing to be heated by contact with the furnace as it passes to the top. The Northern DeLuxe Steel Furnace extracts practically all the heat from the smoke and gases before they pass to the chimney. Just enough heat is left in the smoke pipe to produce the necessary suction in the vent duct.

Never have one of the riveted seams opened on a single one

HEATING STOVES

SUMMIT ROOM HEATERS



Here is a real knock-out in a Heavy Duty Room Heater that will successfully handle a real heating job—any place where a big, heavy, plain, economical and durable heater is wanted—here is the one you have been waiting for.

The well-known Summit Heavy Cannon Stove fitted with a double-walled Casing as illustrated.

The Heater itself is of extra heavy, all cast iron construction, joints tightly fitted—in every way a powerful, efficient and durable stove, and with the casing made as it is, with its double walled construction, a perfect insulation is secured.

The illustration shows very clearly the arrangement and construction of the Room Heater. Outer Casing is of Polished Blued Steel, Inner lining of Bessemer Black Iron and with an inch of Air Space between the inner and the outer Casing.

The main front section of the casing surrounding the feed door and ash pit door is Cast Iron, deflector shaped, giving direct access to these doors, and having louvres opening into the extra hot space around the fire pot.

No. 116—16-inch firepot. Heating capacity 8 to 12000 cubic feet. Height to top of casing 60 inch. Casing diameter 31 inches. Wt., each, 425 lbs. Each $85.50

No. 120—20-inch firepot. Heating capacity 15 to 20,000 cubic feet. Height to top of casing 63 inches. Casing diameter 38 inches. Weight, each, 560 pounds. Each $124.50

MARION OAKS

The manufacturers of Marion Stoves are justly proud of their appearance and construction and operation. There is no question but that Marion Oaks far surpass other makes of high grade oak stoves. None but the highest grade materials are used in the construction of Marion Oaks.

The castings used in Marion Oaks are extra heavy and the bodies are formed of Wood's Refined Body Steel—the best to be had. Comparison of the Marion Oak with any others as to style, finish and construction will quickly establish its superior value and saleability.

—SPECIFICATIONS—

Nos.	M516	M518
Diameter of fire bowl, ins.	16	18
Depth of fire bowl, inches	10	10
Diameter of steel body, inches	16	18
Feed door, inches	9x9	9x9
Height of Stove O. A., in.	57	58
Weight each, lbs.	175	200
Pipe collar, inches	6	6
Floor space inches	26x26	26x26
Each	$31.30	$35.00

All items marked thus ± not carried in stock, but shipped direct from factory.

HEATING STOVES

PET OAK
FOR COAL

With Reversible Pipe Collar

Our new Pet Oak heater is one of the best looking heaters on the market. The doors and the ash pit, to which the ash door is fitted, are ground and fitted air tight like the highest priced heaters now on the market.

One other big improvement is the reversible pipe collar on all sizes.

Body made of polished blued steel. Plain smooth finish castings. Nickel turn knobs on the fire door and ash door. Loose nickel parts, including nickel top ring and the three sections of the nickel plated foot rail. Nickel urn and nickel screw registers. Cast iron bottom with ash pan. Dump grates used in the No. 411 and No. 413. Draw center grates used in the other sizes.

Descriptive Dimensions

Nos.	411-P	413-P	415-P
Size pipe, inches	5	5	6
Dia. top firepot, ins.	9½	11½	13½
Ht., including urn	40	43	46
Wt., uncrated, pounds	55	70	90
Each	$11.70	$15.00	$18.90

Nos.	417-P	419-P
Size pipe, inches	7	7
Diameter top firepot, inches	15½	17½
Height including urn, inches	51	55
Weight uncrated, lbs.	112	145
Each	$21.50	$25.80

Have You Given Your Customers a Chance to buy the

COLONEL WASHINGTON OIL BURNING CIRCULATING HEATER

?

Convenient
Economical
Efficient
Clean Heat
Is What They Want

Tell them about the COLONEL WASHINGTON!

See pages 280 and 281 of this catalog for complete details

HOT BLAST STOVES
COLE'S ORIGINAL

HEAVY VELVET BLUE STANDARD LINE—FOR ALL FUEL

Body—Heavy Velvet Blue of uniform color. Linings—Heavy Cast Iron and steel lining to top of stove. Grate—Heavy Cone Type. Nickel Parts—Ornamental Urn, Top Ring and Foot Rail.

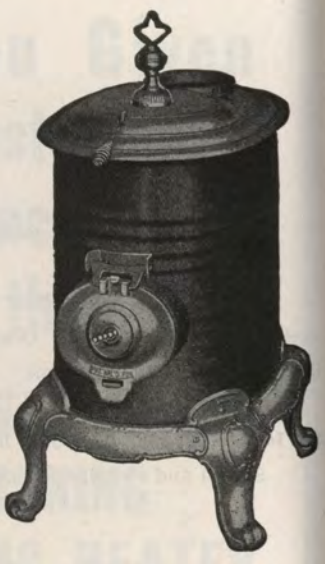
No. 16-E—Diameter of body 16 inches. Shipping weight 150 pounds. Each .$26.00
Shovel and combination poker and shaker furnished with above.

FIRE BRICK-LINED SERIES—FOR ALL FUEL

Body—Heavy Velvet Blue of uniform color. Linings—Heavy silicon fire brick with steel lining to top of stove. Grate—Oversize Draw-Center. Nickel Parts—Ornamental Urn, Top Ring and Foot Rail.

No. 185-B—Diameter of Body 18 inches. Shipping weight 185 lbs. Each ...$28.80
Shovel and grate shaker furnished with above line.

COLE'S QUALITY LINE



FOR WOOD AND LIGHTER FUEL

	Size of body in.	Dia. of Feed Door	Ship Wt., lbs.	List
No. 221C	21x15x20	11	45	$10.20
No. 225C	25x18x24	13	60	12.70

Materials—

Body—Velvet blue of uniform color, cast top, legs and base skirting.

Lining—Steel.

This line can be furnished with foot rails as an extra.

This is a line to meet the heavy demand for a medium priced high grade wood heater that will hold fire over night. The body is made of uniform color steel, double seamed body and bottom, heavy cast top swedged to body under heavy screw pressure without the use of cement or putty. Equipped with heavy cast base strips and legs. Steel lined—reaching above fire belt.

COLE'S COMBINATION WOOD-COAL HEATERS

No. 1621 and 1625 have heavy velvet blue body of uniform color, equipped with heavy cast iron firepot, heavy steel lining extending from firepot to top of body, and duplex grates.

Nickel Parts—Ornamental Urn, Swing Top, Top Ring, Foot Rails and Screw Cap.

These powerful combination heaters combine that wonderful airtight and quick heating qualities of Cole's Air Tight Heaters for wood with the Cole's Hot Blast Heaters for coal. Being airtight these stoves first turn the wood into charcoal, wasting none of the gases. The charcoal then burns, producing a steady, even heat with scarcely any ash waste.

Oblong body and bottom are made of heavy uniform color steel. All Joints are double seamed to insure absolute airtight construction.

Main top of heavy cast iron is forced on the body under heavy screw pressure, making an airtight joint without the use of cement or putty.

The ash pan door is attached to the ash door frame by a compound hinge. The ash door and ash door frame are ground and fitted which insures a permanent gravity airtight joint.

Cole's Combination Wood and Coal Heaters will positively hold fire with wood or coal over night. This line is equipped with heavy cast iron base strips and legs. Cole's Combination Wood and Coal eHaters are acknewledged as being one of the finest combination heaters on the market today.

No. 1621—Size of body, 21x15x24 inches. Size of Top Feel Door 9½x10 inches. Shipping weight 138 pounds. Each $31.10

HEATING STOVES

WASHINGTON PARLOR

FOR WOOD

No. 118WP and 122-WP Have Reversible Pipe Collar

Heavy cast top, cast bottom and cast front. Double swing top and flat cooking top with cover. Large front swing feed door. Nickel swing top, nickel side rails, nickel name plate and nickel screw register. Body made of polished blued steel.

DESCRIPTIVE DIMENSIONS

Nos.	122-WP	126-WP	128-WP
Size pipe, inches	6	6	6
Height, inches	29	29	30
Length wood, inches	22	26	28
Weight, crated, pounds.	100	105	115
Each	$16.50	$19.80	$23.00

DUDLEY

FOR WOOD ONLY

All plates are curved to prevent cracking; end door full size, admitting large wood; side of the 36-inch made in two pieces, well fitted; smooth casting; all bolts are outside; all sizes with swing top.

Descriptive Dimensions

Nos.	222	226	232	236
Pipe, inches	6	6	6	6
Lgth wood. ins.	21	25	31	35
Height, ins.	22½	24½	29	30½
Wt., uncrated, lbs.	80	90	135	160
Each	$11.80	$14.00	$21.00	$23.70

AIR TIGHT HEATERS

VIKING BOX STOVES

Viking heaters are made to meet the demand for an airtight with cast front and large feed door. Full lined with heavy steel, bodies made of heavy uniform color blue steel. All sizes have 6 inch pipe collar, cast front feed door with check draft and cast sliding draft register.

Nos.	22V	24V	28V
Inside length, inches	21¼	23¼	27
Inside width, inches	14¾	16¾	18¼
Inside height, inches	19¾	24	24
Shipping weight, lbs.	41	45	51
Each	$8.30	$8.80	$9.50

FISH HOUSE STOVES

Made of uniform blue steel; equipped with pressed steel front draft; three stamped steel legs and flat cover for feed opening. One in a carton.

Height inside 11½ inches; Length inside 17½ inches; Width inside 13½ inches. Diameter of feed hole 9 inches. Pipe collar 6 inches.

No. 17—Each $1.70

No. 17C—Same as above but equipped with cover and urn as on Wonder Airtight. Each $1.96

SPECIAL AIRTIGHT

Similar to our Wonder Airtight but lighter weight to meet competition. Equipped with steel lining; 6 inch steel front has cast iron draft plate; 4-6 inch steel legs; one piece flanged cover with ornamental urn. One in a carton.

Special Airtight—Height inside 18 inches; Length inside 21 inches; Width inside 14½ inches. Diameter of feed hole 13 inches. Pipe collar 6 inches. Ship. wt. 16 lbs. Each..... $3.30

AIR TIGHT HEATERS

Wonder.

All Wonder stoves are steel lined, except the 18-inch, check draft in pipe collar, steel legs, fancy urns, heavy stamped drafts with nickel-plated keys.

Smooth Steel Body.

Nos.	18	20	22	24	28
Lgth. body, in....	18	20	22	24	28
Ht. body, in.....	14¼	15	20	24	24
Width body, in...	15	15	15	17	19
Size collar, in...	6	6	6	6	6
Weight, each, crated, lbs. ...	16	19	25	30	35
Crate contains ..	2	2	1	1	1
Each	$2.90	$3.70	$4.30	$5.20	$6.30

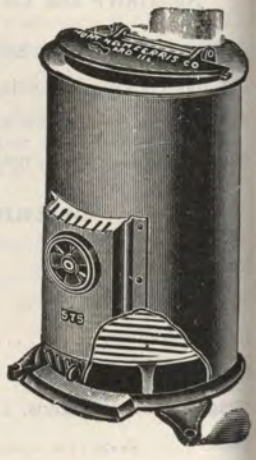
All sizes except 18-inch steel lined.

Above prices do not include foot rails.

Front drafts Wonder N. P. handle. Each..... $1.40

RURAL VEHICLE HEATERS

Rural vehicle—Heater, cast iron linings, grate front draft plate, top and bottom. Heavy sheet steel body, with 22-inch capped pipe; burns soft or hard coal, wood, cobs, etc. Especially adapted to rural delivery and milk wagons.



Lined.

No.	575
Diameter, inches	9
Height, inches	17
Weight, lbs.	25
Each	$13.80

Collar takes 3-inch pipe.

HEATERS, SALAMANDERS, ETC.

HEATING DRUMS

Dandy.

Dandy Heating Drums for 6-inch pipe.

No.	10
Diameter, inches	10
Height, inches	28
Finish	Plain No legs
Weight, each, lbs.	27
Each	$10.00

Imperial.

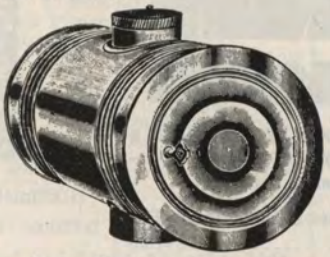
Imperial — Tubular with legs, height, 36 inches; diameter, 14 inches; 6-inch pipe.

No. 11—Smooth steel body. Weight, 29 pounds. Each $7.00

One in a crate.

DRUM OVENS

Gem Combination.



The Gem drum oven is designed to supply an oven in connection with a heating drum and will be found very useful in many places when attached to ordinary pipe. Length, 20 inches; diameter, 13½ inches; oven rack, 8½x17. Made from smooth steel with 6-inch collars.

No. 1C—Gem, drum complete with oven heads and rack. Each $7.00

Two in a crate.

DRUM STOVE CASTINGS

These castings make it possible to convert an empty steel oil drum into a very satisfactory wood stove.

Each set consists of:

1—Feed door(opening 10¾x11½) with slide draft.
1—Feed door frame.
1—Smoke collar.
2—Semi-circular castings to support drum. Four pieces of iron pipe should be used with these castings to act as legs and keep drum off floor.

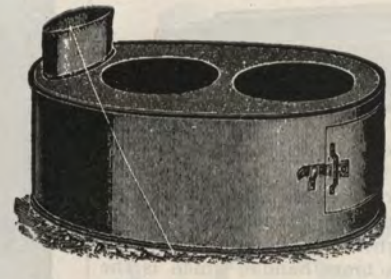
Weight about 35 pounds per set.

No. 55—Complete set $5.50

These may also be furnished less the 2—Semi circular castings which support the drum.

No. 33—Per set $3.60

CAMP STOVES



No. 28—Two holes with covers; 8 inches high, 24½ inches long, 16 inches wide; 5-inch pipe. Weight, each, 6 lbs.

Each $5.00

SALAMANDERS

Size 18x24 Inches.

For drying plaster and cement work in new buildings. Made of 18-gauge sheet steel. Ash tray extends past the body 4 inches all around to guard against ashes or coal dropping on the floor. Stands on four legs, made 3-16x1¼ inch iron, size of body 18x24 inches. Heavy cast iron grate. 24-gauge iron cover arranged for 6 inch pipe. (Cover extra). Total height with legs 34 inches. Weight, 48 pounds.

Each $10.00

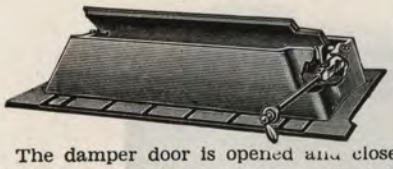
Cover extra. Each...$2.50

Note—We can furnish Salamanders of lighter construction—Prices on request.

DOME DAMPERS. ETC.

DOME DAMPERS

Rotary Control



The damper door is opened and closed by means of an iron rod (24" long which can be cut down to any necessary length) with a worn attachment; this rod extends through the mantel facing and is fitted with a brass handle, which is the only visible part of the operating mechanism.

Dome and door made of high grade stove plate iron. Furnished with either one of the two controls. Be sure to specify which is desired.

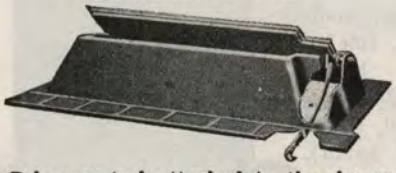
Peerless Features

1. The panelled front flange is made sufficiently strong to support the fireplace arch without the use of angle iron or lintel.
2. Time and labor saved; eliminates necessity of building up brick throat.
3. The Peerless Dome assures correct throat shape and size.
4. Damper leaf is removable, permitting access to the flue for cleaning.
5. Operating mechanism is such that it may be adjusted either before or after the damper is installed.

Nos.	B-24	B-30
For Finished Fireplace Opening Ins	24	30
Length, overall ,in.	28	34
Depth overall, in.	13¾	13¾
Wt., Crtd., lbs. ea.	37	43
Each	$7.75	$8.50

Nos.	B-36	B-42
For Finished Fireplace Opening, ins	36	42
Length, overall, ins.	40	46
Depth, overall, ins.	13¾	13¾
Wt., crtd. lbs., ea.	48	54
Each	$9.50	$10.75

With Poker Control



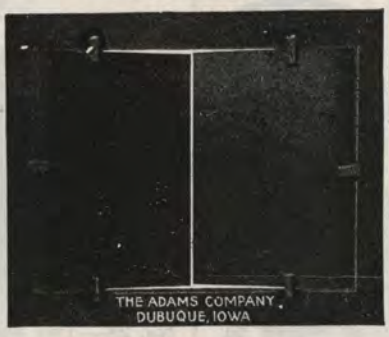
Poker control attached to the damper leaf by one end is a forged steel, notched lever with a brass handle working thru a cast iron loop which is fastened underneath the right front flange. By inserting a poker in the handle loop, the door can easily be adjusted.

No.	BPC24	BPC30
Each	$8.25	$9.00

With Poker Control

No.	BPC36	BPC42
Each	$10.00	$11.25

ASH DUMPS



Double Acting Automatic

These doors are weighted so that a certain amount of ashes causes them to dump automatically, than to close again. Doors cannot fall out of frame. Outside 7x10 inches. Inside, 5x8 inches.

No. 9—Wt., per dozen 54 pounds. Per dozen $12.80

Single Acting

This door is dumped by means of a poker. Cannot fall out of frame. Outside 7x10 inches. Inside 5x8 inches.

No. 8—Weight, per dozen 36 pounds. Per dozen $11.50

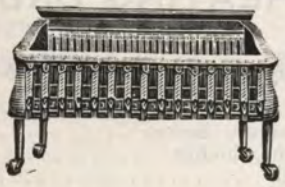
WOOD BASKETS

—No. 1584—

Cast iron. With removable ends to permit the burning of long logs. Velvet black finish. All legs fitted with casters.

Front In.	Depth In.	Back In.	Wt., Lbs.	Each
24	15	22½	47	$10.00
27	15	25	53	10.75
30	15	27½	58	11.50

FIREPLACE GRATES



Cast Iron. Fancy pattern front. Velvet black finish. Dump bottom. Equipped with balls on rear legs.

—No. 1532—

Front In.	Depth In.	Back In.	Wt., Lbs.	Each
24	12½	21½	61	$ 8.50
27	12½	24	70	9.00
30	12½	26	78	9.75
36	12½	34	97	15.00

Hammered effect cast iron front. Dump bottom. Back legs fitted with casters.

No. 1575—Swedish Finish

Nos.	24S	27S	30S
Front, ins.	24½	27½	30¼
Depth Ins.	11¼	11¼	11¼
Back, in.	22	25	28
Wt., lbs.	67	74	77
Each	$14.00	$15.50	$17.00

No. 1575—Burnt Antique Brass Finish

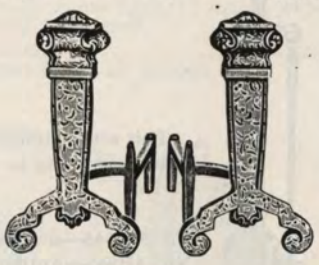
Nos.	20BAB	24BAB	27BAB	30BAB
Front, in.	20¼	24½	27½	30¼
Back, In.	18	22	25	28
Depth, In.	11¼	11¼	11¼	11¼
Wt., lbs.	59	67	74	77
Each	$13.00	14.00	15.00	17.00

FIREPLACE GOODS

ANDIRONS AND FIRE SETS

No. 3636B—Hammered effect; velvet Black finish; open back. 14½ inches high. Weight per pair 17 lbs. Per pair $3.50

No. 898B—Hammered effect, velvet black finish handles—steel tool shafts and shovel blade; 25-inch high. Set consists of stand, poker, shovel and tongs as shown. Weight per set 16 lbs. Per set $6.00



No. 3597

No. 3597—Andiron—Cast Iron. Hammered effect. Open back. Height, 17½-inches. Wt., per pair, 28 pounds. Fireset to match No. 909.
No. SW3597—Swedish Finish. Per pair ..$8.25
No. BAB3597—Burnt Antique Brass. Per pair $8.25

No. 909

No. 909—Fire Set—Hammered effect overall. Height, 25¼ inches. Set consists of stand, poker, shovel, tongs and brush. Weight, per set, 24 pounds. Matches andirons No. 3597.
No. SW909—Swedish Finish. Per pair $11.50
No. BAB909—Burnt Antique Brass. Per pair 11.50

A very attractive 4 tool fireset, 32 inches high.

No. SW924—Swedish finish. Per set ...$12.25

No. BAB924—Burnt Antique Brass finish. Per set $12.25

Andirons, Full pattern, colonial design, hammered effect. Height 18½ inches. Weight per set 31 lbs.
No. SW3640—Swedish finish. Per pair $8.25
No. B3640—Antique brass finish. Per pair $8.25

ANDIRONS & FIRE SETS

Colonial pattern cast iron andirons in velvet black finish, with cast brass plated balls. Full pattern. Height, 16½ inches.
No. 587B—Weight per pair 22 lbs. Per pair $6.50

Colonial pattern, matching No. 587B Andirons. Velvet black finish, with brass plated handles. Height 25 inches.

No. 859BPH—Weight, each, 16 lbs. Per set $8.00

No. 3595R — Andiron, Cast iron, hammered effect. Full pattern 27 inches high, 24 inch log roller, Swedish finish. Wt., per pair, 52 lbs. Per pair $17.75

Andirons—The chippendale design. Height, 20 ins. Wt., per pair — lbs.
No. SW3613— Swedish finish. Per pair..$12.75

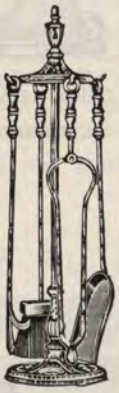
No. BAB3613 — Burnt Antique brass. Per pair $12.75

FIRE SETS

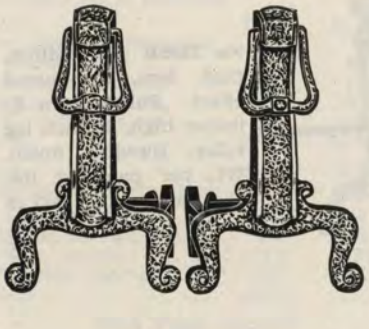
This set goes well with No. 3640 Andirons; Set consists of stand, poker, shovel, tongs and brush. Height 32 inches. Weight 23 pounds.

No. SW956—Swedish finish. Per set $12.25
No. AB956—Antique copper finish. Per set.$12.25

This set matches No. 3641 Andirons especially well. Consists of stand, poker, shovel, tongs and brush. Height 32 inches. Weight 23 pounds.
No. SW955—Swedish finish. Per set $12.25
No. AB955—Antique brass finish. Per set .. 12.25



This fireset harmonizes well with No. 3639 Andirons and is also suitable for use with many other designs. Set consists of stand, poker, shovel, tongs and brush. Height 32 inches; weight 23 pounds.
No. SW924—Swedish finish. Per set $12.25
No. AB924—Antique brass finish. Per set 12.25



A very popular "Krocher" design andiron in hammered effect cast iron. Height 17½ inches. Weight 32 pounds.

No. SW3639—Swedish finish. Per pair $9.25

No. AB3639—Antique brass finish. Per pr. 9.25

—Andirons—Elizabethan design, cast iron hammered effect. Height 19½ inches. Wt., — lbs. per pair.
No. SW3612—Swedish finish. Per pair...$9.80

No. BAB3612—Burnt Antique Brass Finish. Per pair $9.80

Fireset—Cromwell design, hammered effect. Height, 32-inches. Weight, — lbs. per set.
No. SW921—Swedish Finish. Per set $8.10
No. BAB921—Burnt Antique Brass Finish. Per set 8.10

Full pattern, Adam design hammered effect. Height 19½ inches. Weight per pair 31 lbs.
No. SW3641—Swedish finish. Per pair $8.25
No. AB3641—Antique brass finish. Per pair $8.25

This set is similar in design to No. 956 but is smaller, lighter and has no tongs. Height, 30 inches; weight 15 lbs.

No. SW946—Swedish finish. Per set $7.50
No. AB946—Antique brass finish. Per set.... 7.50

This set is similar in design to 955 but is smaller, lighter and has no tongs. Height 30 inches; Wt., 15 lbs.

No. SW945—Swedish finish. Per set $7.50
No. AB945—Antique brass finish. Per set ... 7.50

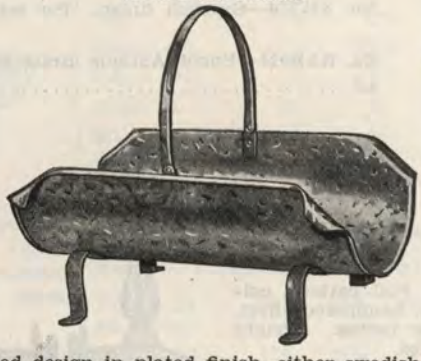
FIREPLACE CRYSTALS

"Northern Lights"

"Northern Lights" Fireplace Crystals are a chemical compound prepared for use on fireplace fires. When sprinkled on such a fire they turn the flame into several beautiful shades of blue, green and purple which combine with the natural colors of the fire to give a regular rainbow effect. Similar products have been on the market for a number of years, but most of them have sold for about $1.00 per package about the same size as the No. 2 Northern Light Crystals.

No. 2 Size—Per package $0.35
No. 3 Size—Per package ..... .65

WOOD HOLDERS



Hammered design in plated finish, either swedish or antique brass. Length 20 inches, width 12 inches. Weight 7 lbs.

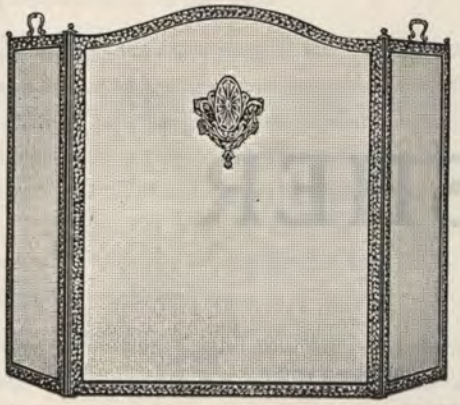
No. SW1569—Swedish finish. Each $5.25
No. AB1569—Antique brass finish. Each 5.25

FIREPLACE FURNITURE SETS

FIREPLACE SCREENS

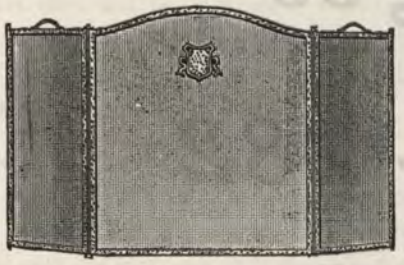
A very unusual, attractively designed screen. Hammered frames and ornaments, plated finish. Center panel 33 inches high 30 inches wide, side panels 30 inches high, 13 inches wide. Arched top as illustrated. Weight 21 pounds.

No. SW2490—Swedish finish. Each $31.25
Can also be supplied in Antique Brass on Special order.



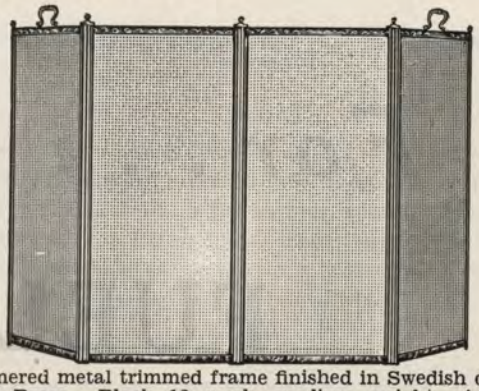
A very unusual, attractively designed screen. Hammered frames and ornaments, plated finish. Center panel 33 inches high, 30 inches wide; side panels 30 inches high, 13 inches wide, arched top as illustrated. Weight 20 pounds.

No. SW2453—Swedish finish. Each $14.25
No. AB2453—Antique brass. Each 14.25



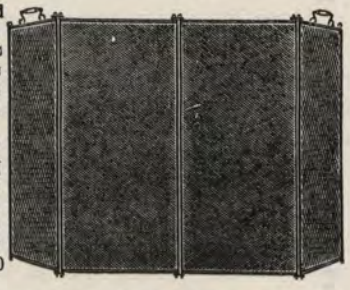
Hammered Frames. Black 12 mesh cloth. Center folds 26 inches wide by 33 inches high; side folds, 13 inches wide by 30 inches high. Weight each, 24 lbs.

No. 2453—Screen—Swedish finish. Each $20.00
No. 243—Screen—B.A.B. finish. Each 20.00



Hammered metal trimmed frame finished in Swedish or Burnt Antique Brass. Black 12 mesh, medium weight wire cloth. Three folds: center fold, 26 inches wide by 30 inches high; side folds, 13 inches wide by 30 inches high. Weight each, 18 lbs.
No. SW2487—Swedish finish. Each $8.00
No. AB2487—Antique brass finish. Each 8.00

Hammered metal trimmed frame in Swedish, or Burnt Antique Brass finish. Black, 12 mesh medium weight wire cloth. Four folds. Each fold 12-inches wide by 30-inches high. Weight each, 16 lbs.
No. SW2488—Swedish finish. Each $8.75
No. AB2488—Antique brass finish. Each 8.75



Black—Iron rod frame and mattress weave wire cloth Polished brass handles and knobs. Welded corners. Four folds, each fold, 12-inches wide by 30-inches high. Wt. each, 17 lbs.
No. 2423BT—Blk. and B. T
Each $9.40
No. 2426BT—Same as No 2423BT but with three folds —center fold 26 inches wide side folds 12 inches wide
Eacr $9.40

Heavy iron rod frame, welded joints. 6 mesh, 23 gauge wire cloth. Velvet Black baked-on finish. Brass handle and scrolls.

	—No. 13—			
Wdth. In.	Ht., In.	Dpth. In.	Wt., Lbs.	Each
31	31	6	12	$7.50
37	31	6	13	8.70

Individually Wrapped.

For . . .

FUEL SAVER, HUMIDIFIER AND AIR WASHER

See Pages

280 - 281 - 282

Richardson Boilers

□ □ □ □

The Richardson & Boynton Company was a pioneer among the manufacturers of cast iron boilers for heating systems. The accumulated knowledge of years of experience in the heating of buildings of all kinds stands behind every Richardson Boiler, and the name Richardson in itself is a guarantee of efficient service at low cost.

Years of close contact with the heating trade have developed a noteworthy consciousness of trade protection and a reputation for responsibility to the public.

Typical of the company's attitude and responsibility to heating contractors and the public is its practice of testing each section of every boiler at high water pressure, of carefully reaming and machining all sections and of fully assembling the boiler before shipment. When assembled, the boiler is again tested at high water pressure to make sure that all connections and sections are "perfect" in every respect. This is an exceptional practice, and an expensive one.

All Richardson Boilers are rated according to A. S. M. E. standards. These ratings are absolutely dependable and with every Richardson Boiler goes the Richardson & Boynton Company guarantee of perfection in workmanship and materials and efficiency in operation.

Richardson Radiation is designed and constructed under the same strict standards as Richardson Boilers, and, with the Richardson & Boynton Heating and Radiation Specialties described in this catalog, forms a complete Heating Line of uniform high quality and effectiveness.

All heating contractors and members of the professions allied with the heating industry are urged to inspect our manufacturing facilities and methods, so that they may familiarize themselves with the excellence of Richardson Boilers and Richardson Radiation and so specify and sell them with complete confidence.

GENERAL INFORMATION ON RICHARDSON BOILERS

Nipples

The sections of all Richardson Boilers are connected to each other by machine-cut tapered CAST IRON push nipples. They are of the same metal as the sections, and prevent unevenness in contraction and expansion. These nipples are fitted into tapered openings in the section, thus making an absolutely tight joint without the use of lead or packing.

Special Grates

Grates for fine size fuels, when so ordered, are furnished with any size of Richardson Boiler without extra cost.

Covering

We recommend that all Boilers, Mains and Risers should be covered with best quality insulating materials for efficiency and economy.

Extra Equipment

Each boiler comes equipped with shaker, poker and fire brush.

Coils

Richardson Boilers are cored for coils to be placed in the fire box for heating water. Steam Boilers also have tappings for indirect water heaters.

Outlets

Outlets on boilers should not be bushed; all should be connected full size to the mains.

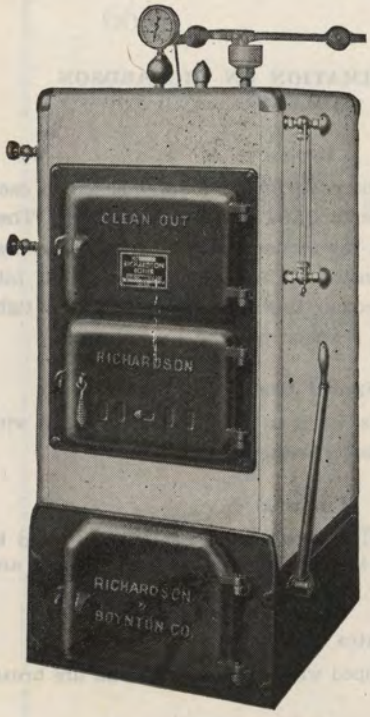
Ratings and Loads

Ratings of boilers as given in this catalog are capacities at the boiler outlet in equivalent direct radiation.

Recommended loads as given in this catalog represent net equivalent direct radiation, which may be safely and economically used. Provision should be made for other than standard conditions, and for piping demands.

Richardson & Boynton Guarantee

Every Richardson Boiler is sold under a guarantee as to its perfection in manufacture and its ability to carry the rating shown in our printed matter, provided that a sufficient amount of radiation is installed; that the piping system is of adequate size and properly run; that the boiler is connected to a flue of sufficient size and draft for the size of the fire box; that the boiler is operated with steam at a standard pressure of 2 pounds, or hot water at a temperature of 180 degrees Fahrenheit; that fuel of the proper type and quality is used; and that care and attention are rendered as necessary.



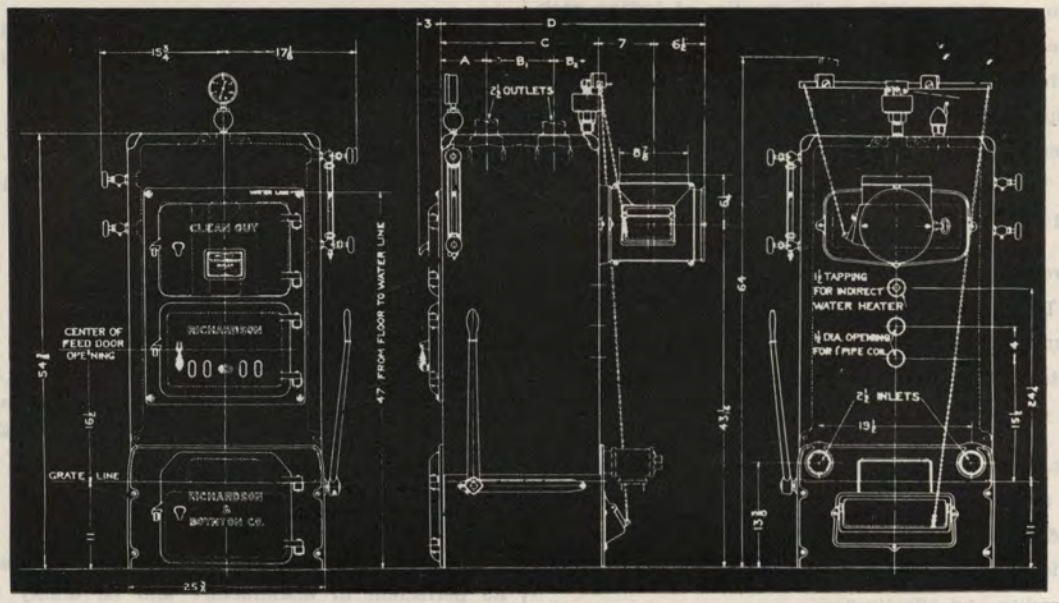
CASED SECTIONAL BOILERS

RICHARDSON BLUE COMET

700 SERIES

For Coal, Oil and Gas

When heating requirements demand a sectional boiler of small or medium size, at a price range within the reach of everyone, there is but one boiler to specify—the New Richardson & Boynton BLUE COMET. This new addition to the R. & B. line has been designed by skilled engineers in accordance with approved scientific heating principles. Its economy in operation and quick response to firing insure comfort at all times.



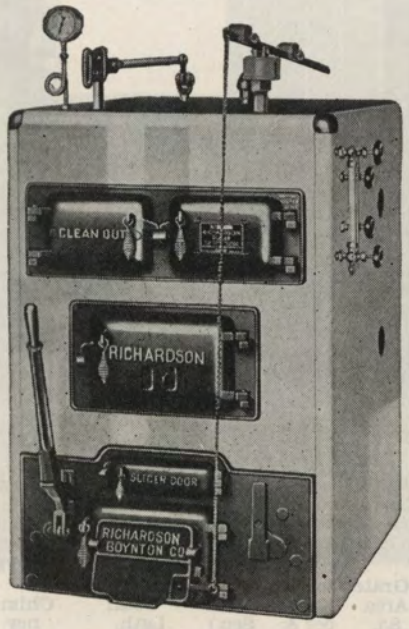
Boiler Nos.	STEAM Rating Sq. Ft.	STEAM Recommended Net Load E.D.R. Sq. Ft.	STEAM Approx. Shipping Weight	WATER Rating Sq. Ft.	WATER Recommended Net Load E.D.R. Sq. Ft.	WATER Approx. Shipping Weight	Grate Area Sq. Ft.	Outlets No. and Size Ins.	Inlets No. and Size Ins.	Chimney Size Ins.	Chimney Ht. Ft.	STEAM AND WATER Dimensions, Inches For Locating Flow Tappings see diagram on Opposite Page A	B	C	D	Steam Price Each	Water Price Each
714A	400	200	811	675	325	808	1.41	2–2½	2–2½	**8x8**	30	5 13/16	4¼	5 13/16	32¾	*$153.00	*$139.50
715A	575	285	951	950	470	943	1.91	2–2½	2–2½	**8x8**	**30**	5 13/16	8½	5 13/16	36¾	* 180.30	162.30
716A	750	370	1093	1250	615	1085	2.41	2–2½	2–2½	8x8	30	10 1/16	8½	5 13/16	41	* 207.20	187.20
717A	925	455	1225	1550	716	1217	2.91	2–2½	2–2½	**8x12**	**35**	10 1/16	8½	5 13/16	45¼	* 234.20	212.20
718A	1100	540	1368	1850	905	1360	3.41	3–2½	2–2½	8x12	35	10 1/16	8½	5 13/16	49½	* 261.50	237.50
719A	1275	625	1501	2150	1050	1493	3.91	3–2½	2–2½	8x12	35	10 1/16	8½	5 13/16	53¾	* 287.00	261.00

Items marked thus ‡ not carried in stock but shipped direct from factory.

CASED SECTIONAL BOILERS

RICHARDSON BLUE COMET

— 800 SERIES —



Richardson 800 Series Cased Boilers are built on the same sound principles as the 24 inch Sectional Boilers described on pages 730B and 730C. In addition they have the advantage in appearance and in operating efficiency of a well insulated casing, finished in blue, which is durable, easy to clean and will not crack or peel.

The doors, ashpit front, smoke box and other exposed parts are coated with black enamel. These boilers are completely equipped with the finest accessories. The large cleanout doors provide ample room for cleaning and, together with the well designed flue passages, make it possible for the boiler always to be operated with the greatest economy and efficiency.

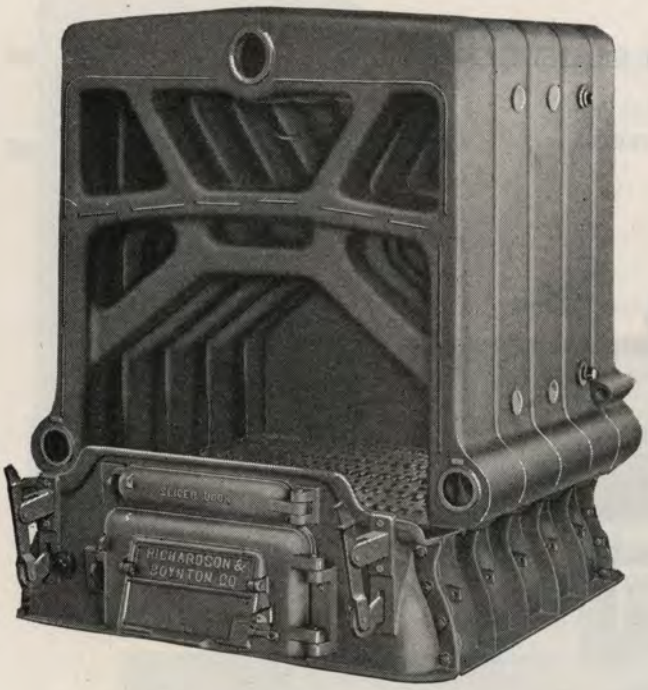
The casing of the Richardson 800 Series Cased Boilers is lined with thick air cell asbestos and this insulation, plus the air space between the boiler itself and the casing, effects an important conservation of heat and increases the efficiency of the boiler to a remarkable degree.

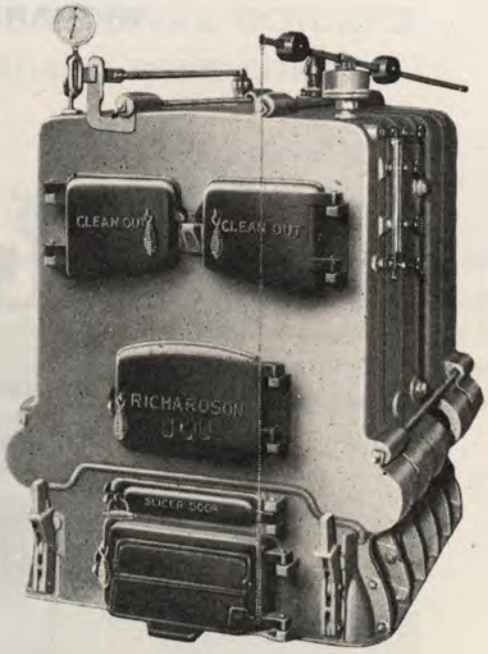
Square Cased Boiler No.	Price Steam Each	Price Water Each	Appr. Ship. Wt. Steam	Appr. Ship Wt. Water	Rating Sq. Ft. Steam	Rating Sq. Ft. Water	Recom'd Net Load E.D.R. Sq. Ft. Steam	Recom'd Net Load E.D.R. Sq. Ft. Water	Width of Casing	Height of Casing	Lgth. of Casing Front and Back	For Spec. See Sectional Boiler No.
No. 815	‡$330.60	‡$330.60	2122	2120	1050	1675	525	835	34⅜	50¾	32¾	No. 245
No. 816	‡ 370.80	‡ 370.80	2440	2438	1300	2075	650	1035	34⅜	50¾	39	No. 246
No. 817	413.00	‡ 413.00	2766	2764	1550	2475	775	1235	34⅜	50¾	45¼	No. 247
No. 818	452.40	‡ 452.40	3089	3087	1800	2875	900	1435	34⅜	50¾	51½	No. 248
No. 819	492.00	‡ 492.00	3406	3404	2050	3275	1025	1635	34⅜	50¾	57¾	No. 249

SECTIONAL STEAM & WATER BOILERS

RICHARDSON

SECTIONAL VIEW OF RICHARDSON SECTIONAL BOILERS





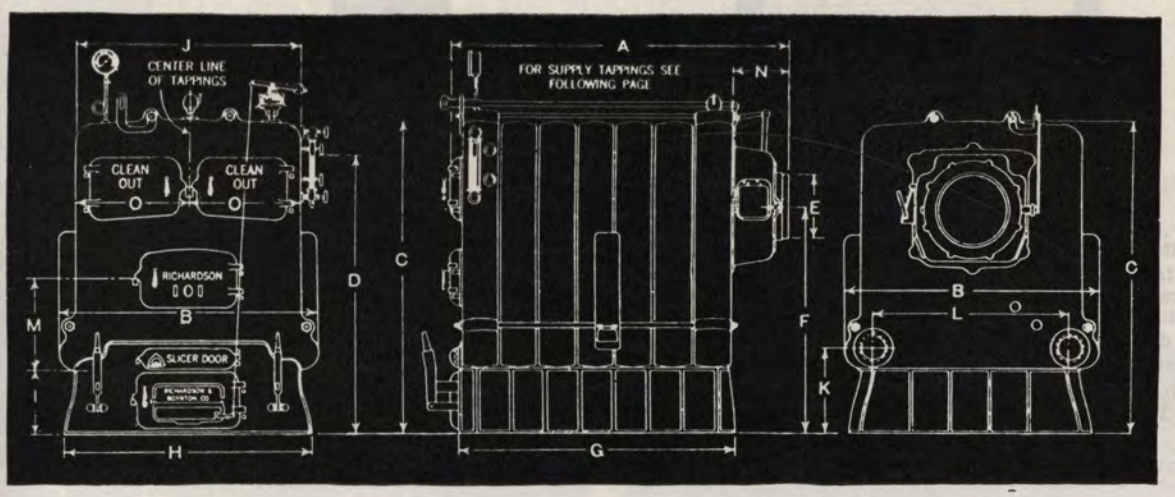
These illustrations show in detail the features of the Richardson Sectional Boilers; the sample fire and combustion chamber with the low overhanging active fire surface; the carefully designed waterways conducive to the rapid circulation of the water; the large flue spaces suitable for burning any quality of fuel; and the tappings for indirect water heaters. Connections between sections are made with extra heavy cast-iron slip nipples, making the boiler absolutely tight.

	STEAM		WATER		STEAM AND WATER									
Boiler Number	Rating Sq. Ft.	Recom'd Net Load E.D.R. Sq. Ft.	Rating Sq. ft.	Recom'd Net Load E.D.R. Sq. Ft.	Grate Area Sq. Ft.	Outlets Number & Size	Inlets (Rear Sec.) Number & Size	Total Lgth. Ins.	Chimney Size Ins.	Chimney Ht., Ft.	Approx. Ship. wt. Steam Lbs.	**Steam** Price Each	Approx. Ship. wt. Water Lbs.	**Water** Price Each
244	800	400	1275	635	2.77	1-3″	2-3″	32⅜	8x12	35	1635	$221.80	1610	$205.60
245	1050	525	1675	835	3.68	2-3″	2-3″	38⅝	8x12	35	1938	259.60	1913	237.40
246	1300	650	2075	1035	4.59	2-3″	2-3″	44⅞	8x12	40	2237	289.42	2212	271.20
247	1550	775	2475	1235	5.50	3-3″	2-3″	51⅛	8x12	40	2554	321.30	2529	441.70
248	1800	900	2875	1435	6.41	3-3″	2-3″	57⅜	8x12	50	2862	355.20	2837	339.00
249	2050	1025	3275	1635	7.32	3-3″	2-3″	63⅝	8x12	50	3161	389.00	3136	370.80
	Castings only: Height 49⅜ inches. Width 34⅞ inches. Water line 43⅜ inches. Size of smake pipe 9 inches.													
325	2250	1125	3600	1800	6.66	2-4″	2-4″	49½	12x12	35	3082	476.50	3047	454.30
326	2800	1400	4475	2235	8.33	2-4″	2-4″	56⅞	12x12	40	3598	533.60	3563	513.40
327	3350	1675	5350	2675	10.00	3-4″	2-4″	64¼	12x12	40	4067	592.40	4032	570.20
328	3900	1950	6225	2100	11.67	3-4″	2-4″	71⅝	12x12	50	4559	649.30	4524	627.10
329	4450	2225	7100	3550	13.34	4-4″	2-4″	79	12x12	60	5020	706.10	4985	685.90
3210	5000	2500	7975	3985	15.01	4-4″	2-4″	86⅜	12x12	60	5506	763.00	5471	742.80
	Castings only: Height, 55 inches. Width 46½ inches. Water line 48 inches. Size of Smoke Pipe 12 inches.													
395	3400	1700	5450	2725	9.20	2-5″	2-5″	56¼	12x16	40	4338	726.00	4308	703.80
396	4200	2100	6725	3360	11.50	2-5″	2-5″	64⅝	12x16	50	5057	798.30	5027	778.20
397	5000	2500	8000	4000	13.80	3-5″	2-5″	73	12x16	50	5760	872.50	5730	870.40
398	5800	2900	9275	4635	16.10	3-5″	2-5″	81⅜	12x16	60	6485	946.90	6455	924.70
399	6600	3300	10550	5275	18.40	4-5″	2-5″	89¾	12x16	60	7192	1019.10	7162	999.00
	Castings only: Height 63 inches. Width 53½ inches. Water line 56 inches. Size of Smoke Pipe—14 inches.													
457	6600	3300	10550	5275	15.90	3-5″	2-5″	75	16x16	50	6768	1016.60	6738	992.40
458	7600	3800	12150	6075	18.55	3-5″	2-5″	83⅜	16x16	50	7601	1117.60	7571	1091.40
459	8600	4300	13750	6875	21.20	4-5″	2-5″	91¾	16x16	60	8426	1216.50	8396	1190.40
4510	9600	4800	15350	7675	23.85	4-5″	2-5″	100⅛	16x16	60	9244	1315.40	9214	1289.30
4511	10600	5300	16950	8475	26.50	5-5″	2-5″	108½	16x16	60	10045	1414.20	10015	1390.00
	Castings only: Height 68 inches. Width 59½ inches. Water line 59 inches. Size of smoke pipe, 16 inches.													

SECTIONAL BOILER MEASURE MENTS

RICHARDSON

THIS DIAGRAM IS FOR BOTH STEAM AND WATER BOILERS. 24-32-39-45 SERIES.



No.	For Steam and Water															*Steam and Water Tappings (See note below).				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	1	2	3	4	5
244	32 3/8	34 7/16	49 3/8	43 3/8	9	38 5/8	24 11/16	30 1/2	11 1/2	31 7/8	15 1/8	27 5/8	14 1/8	6 5/8	15 11/16	15 1/8				
245	38 5/8	34 7/16	49 3/8	43 3/8	9	38 5/8	31 7/16	30 1/2	11 1/2	31 7/8	15 1/8	27 5/8	14 1/8	6 5/8	15 11/16	8 7/8	21 3/8			
246	44 7/8	34 7/16	49 3/8	43 3/8	9	38 5/8	37 7/16	30 1/2	11 1/2	31 7/8	15 1/8	27 5/8	14 1/8	6 5/8	15 11/16	8 7/8	27 5/8			
247	51 1/8	34 7/16	49 3/8	43 3/8	9	38 5/8	43 11/16	30 1/2	11 1/2	31 7/8	15 1/8	27 5/8	14 1/8	6 5/8	15 11/16	8 7/8	21 3/8	33 7/8		
248	57 3/8	34 7/16	49 3/8	43 3/8	9	38 5/8	49 11/16	30 1/2	11 1/2	31 7/8	15 1/8	27 5/8	14 1/8	6 5/8	15 11/16	8 7/8	21 3/8	40 1/8		
249	63 5/8	34 7/16	49 3/8	43 3/8	9	38 5/8	56 7/16	30 1/2	11 1/2	31 7/8	15 1/8	27 5/8	14 1/8	6 5/8	15 11/16	8 7/8	21 3/8	46 3/8		
325	49 1/2	46 1/2	55	48	12	38 1/2	36 1/2	42 7/8	11 1/2	39	15 3/4	34	12 3/4	9 5/8	19 1/2	10 3/8	25 1/8			
326	56 7/8	46 1/2	55	48	12	38 1/2	43 7/8	42 7/8	11 1/2	39	15 3/4	34	12 3/4	9 5/8	19 1/2	10 3/8	32 1/2			
327	64 1/4	46 1/2	55	48	12	38 1/2	51 1/4	42 7/8	11 1/2	39	15 3/4	34	12 3/4	9 5/8	19 1/2	10 3/8	25 1/8	39 7/8		
328	71 5/8	46 1/2	55	48	12	38 1/2	58 5/8	42 7/8	11 1/2	39	15 3/4	34	12 3/4	9 5/8	19 1/2	10 3/8	25 1/8	47 1/4		
329	79	46 1/2	55	48	12	38 1/2	66	42 7/8	11 1/2	39	15 3/4	34	12 3/4	9 5/8	19 1/2	10 3/8	25 1/8	39 7/8	54 5/8	
3210	86 3/8	46 1/2	55	48	12	38 1/2	73 3/8	42 7/8	11 1/2	39	15 3/4	34	12 3/4	9 5/8	19 1/2	10 3/8	25 1/8	47 1/4	62	
395	56 1/4	53 1/2	63	56	14	48 1/2	41 1/4	49 5/8	13	47	17 1/2	40	15	11 7/8	23 1/2	11 3/8	28 1/8			
396	64 5/8	53 1/2	63	56	14	48 1/2	49 5/8	49 5/8	13	47	17 1/2	40	15	11 7/8	23 1/2	11 3/8	36 1/2			
397	73	53 1/2	63	56	14	48 1/2	58	49 5/8	13	47	17 1/2	40	15	11 7/8	23 1/2	11 3/8	28 1/8	44 7/8		
398	81 3/8	53 1/2	63	56	14	48 1/2	66 3/8	49 5/8	13	47	17 1/2	40	15	11 7/8	23 1/2	11 3/8	28 1/8	53 1/4		
399	89 3/4	53 1/2	63	56	14	48 1/2	74 3/4	49 5/8	13	47	17 1/2	40	15	11 7/8	23 1/2	11 3/8	28 1/8	44 7/8	61 5/8	
457	75	59 1/2	68	59	16	49 1/2	58	55 1/2	13	53	17 1/2	46	16 1/2	12 1/2	26 1/2	11 3/8	28 1/8	44 7/8		
458	83 3/8	59 1/2	68	59	16	49 1/2	66 3/8	55 1/2	13	53	17 1/2	46	16 1/2	12 1/2	26 1/2	11 3/8	28 1/8	53 1/4		
459	91 3/4	59 1/2	68	59	16	49 1/2	74 3/4	55 1/2	13	53	17 1/2	46	16 1/2	12 1/2	26 1/2	11 3/8	28 1/8	44 7/8	61 5/8	
4510	100 1/8	59 1/2	68	59	16	49 1/2	83 1/8	55 1/2	13	53	17 1/2	46	16 1/2	12 1/2	26 1/2	11 3/8	28 1/8	44 7/8	70	
4511	108 1/2	59 1/2	68	59	16	49 1/2	91 1/2	55 1/2	13	53	17 1/2	46	16 1/2	12 1/2	26 1/2	11 3/8	28 1/8	44 7/8	61 5/8	78 3/8

* Tappings numbered from front. Measurements from face of front section to center of tappings in inches.

HOT BLAST SMOKELESS BOILERS

RICHARDSON

SECTIONAL STEAM AND WATER THE BRIDGEWALL SECTION

This section forms the rear end of front combustion chamber. It contains a water curtain faced with fire brick. Fire brick facing retains heat readily and at an extremely high temperature. Air injected into the combustion chamber through the air blast section in front of the bridgewall is heated by direct contact with this brick facing. This curtain effect forces the rising products of combustion to follow a circular motion before being drawn down underneath its lower edge. Two gas vents at the top center relieve any gas pockets.

THE AIR BLAST SECTION

This section is designed with two hot air intakes, one on each side just under the crown sheet. Cast iron air ducts are attached to the outside covering these air intakes. These form air channels leading directly into the front combustion chamber. Upon entering the front combustion chamber, the heated air crosses the hot brick on the bridgewall section. The high temperature of this air so greatly aids the general combustion that it eliminates all smoke, even with the poorest grades of coal.

RICHARDSON HOT BLAST SMOKELESS SECTIONAL BOILERS—32-39-45 SERIES

Size of Smoke Pipe, 9 inches. Water Line, 43 7/8 inches.
Items marked thus * not carried in stock but shipped direct from factory.

Boiler Number	Rating Sq. Ft.	STEAM Recommended Net Load E.D.R. Sq. Ft.	Water Line Ins.	Rating Sq. Ft.	WATER Recommended Net Load E.D.R. Sq. Ft.	Grate Area Sq. Feet	Outlets No. & Size	Inlets (Rear Sec.) No. & Size	Smoke Pipe Ins.	STEAM AND WATER			Approx. Ship. Wt. Lbs. Steam	Steam Price Each	Approx. Ship. Wt. Lbs. Water	Water Price Each
										Chimney Size Ins.	Chimney Ht., Feet	Ash Pit (Inside) Ins.				
732	3350	1675	48	5350	2675	10.00	3-4″	2-4″	14	12x16	45	38 7/8x47 1/8	4092	$ 612.50	4062	$ 592.40
832	3900	1950	48	6225	3110	11.67	3-4″	2-4″	14	12x16	50	38 7/8x54 7/8	4584	669.45	4554	649.30
932	4450	2225	48	7100	3550	13.34	4-4″	2-4″	14	12x16	55	38 7/8x62 1/4	5045	728.20	5015	706.00
1032	5000	2500	48	7975	3985	15.01	4-4″	2-4″	14	12x16	55	38 7/8x69 3/8	5505	669.45	4475	756.80
739	5000	2500	56	8000	4000	13.80	3-5″	2-5″	16	16x16	55	44 7/8x53 3/4	5802	904.80	5772	882.60
839	5800	2900	56	9275	4635	16.10	3-5″	2-5″	16	16x16	60	44 7/8x62 1/8	6519	977.10	6489	956.90
939	6600	3300	56	10550	5275	18.40	4-5″	2-5″	16	16x16	60	44 7/8x70 1/2	7226	1051.30	7196	1031.20
1039	7400	3700	56	11825	5910	20.70	4-5″	2-5″	16	16x16	60	44 7/8x78 7/8	7906	1125.40	7876	1103.20
745	6600	3300	59	10550	5275	15.90	3-5″	2-5″	20	16x20	55	50 3/4x53 3/4	6709	1060.20	6669	1034.00
845	7600	3800	59	12150	6075	18.55	3-5″	2-5″	20	16x20	60	50 3/4x62 1/8	7542	1159.20	7502	1133.00
945	8600	4300	59	13750	6875	21.20	4-5″	2-5″	20	16x20	65	50 3/4x70 1/2	8367	1278.20	8327	1232.00
1045	9600	4800	59	15350	7675	23.85	4-5″	2-5″	20	16x20	65	50 3/4x78 7/8	9136	1356.80	9096	1330.60
1145	10600	5300	59	16950	8475	26.50	5-5″	2-5″	20	20x20	65	50 3/4x87 1/4	9892	1455.30	9852	1431.10
1245	11600	5800	59	18550	9275	23.85	5-5″	2-5″	20	20x20	65	50 3/4x78 7/8	10700	1556.20	10660	1530.00
1345	12600	6300	59	20150	10075	26.50	6-5″	2-5″	20	20x20	70	50 3/4x87 1/4	11447	1654.70	11407	1628.40
1445	13600	6800	59	21750	10875	26.50	6-5″	2-5″	20	20x20	70	50 3/4x87 1/4	12129	1752.80	12029	1726.50
1545	14600	7300	59	23350	11675	26.50	7-5″	2-5″	20	20x20	75	50 3/4x87 1/4	12832	1771.00	12792	1826.70
1645	15600	7800	59	24950	12475	26.50	7-5″	2-5″	20	20x20	75	50 3/4x87 1/4	13535	1951.20	13495	1915.00
1745	16600	8300	59	26550	13275	26.50	8-5″	2-5″	20	20x20	75	50 3/4x87 1/4	14230	2049.40	14190	2023.10

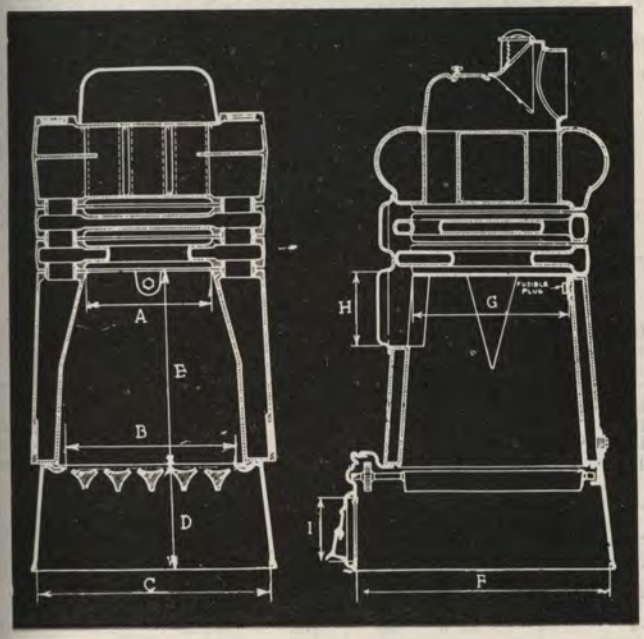
SMOKELESS BOILER MEASUREMENTS

RICHARDSON

All measurements are given in inches and apply to 32-39-45 Series Smokeless Boilers.

	For Steam and Water												STEAM AND WATER TAPPINGS Numbered from front. Measurements From Face of Front Section to Center of Tapping									
No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	1	2	3	4	5	6	7	8	9
732	64¼	46½	55	48	14	38½	51¼	42⅞	11½	39	15¾	34	12¾	9⅝	19½	10⅜	25⅛	39⅞						
832	71⅝	46½	55	48	14	38½	58½	42⅞	11½	39	15¾	34	12¾	9⅝	19½	10⅜	32½	47¼						
932	79	46½	55	48	14	38½	66	42⅞	11½	39	15¾	34	12¾	9⅝	19½	10⅜	25⅛	39⅞	54⅝					
1032	86⅜	46½	55	48	14	38½	73⅜	42⅞	11½	39	15¾	34	12¾	9⅝	19½	10⅜	25⅛	47¼	62					
739	73	53½	63	56	16	48½	58	49⅝	13	47	17½	40	15	11⅞	23½	11⅜	28⅛	44⅞						
839	81⅜	53½	63	56	16	48½	66⅜	49⅝	13	47	17½	40	15	11⅞	23½	11⅜	36½	53¼						
939	89¾	53½	63	56	16	48½	74¾	49⅝	13	47	17½	40	15	11⅞	23½	11⅜	28⅛	44⅞	61⅝					
1039	97⅜	53½	63	56	16	48½	83⅛	49⅝	13	47	17½	40	15	11⅞	23½	11⅜	28⅛	53¼	70					
745	75	59½	68	59	20	49½	58	55½	13	53	17½	46	16½	12½	26½	11⅜	28⅛	44⅞						
845	83⅜	59½	68	59	20	49½	66⅜	55½	13	53	17½	46	16½	12½	26½	11⅜	36½	53¼						
945	91¾	59½	68	59	20	49½	74¾	55½	13	53	17½	46	16½	12½	26½	11⅜	28⅛	44⅞	61⅝					
1045	100⅛	59½	68	59	20	49½	83⅛	55½	13	53	17½	46	16½	12½	26½	11⅜	28⅛	53¼	70					
1145	108½	59½	68	59	20	49½	91½	55½	13	53	17½	46	16½	12½	26½	11⅜	28⅛	44⅞	61⅝	78⅜				
1245	116⅞	59½	68	59	20	49½	99⅞	55½	13	53	17½	46	16½	12½	26½	11⅜	28⅛	44⅞	61⅝	86¾				
1345	125¼	59½	68	59	20	49½	108¼	55½	13	53	17½	46	16½	12½	26½	11⅜	28⅛	44⅞	61⅝	78⅜	95⅛			
1445	133⅝	59½	68	59	20	49½	116⅝	55½	13	53	17½	46	16½	12½	26½	11⅜	28⅛	44⅞	61⅝	86¾	103½			
1545	142	59½	68	50	20	49½	125	55½	13	53	17½	46	16½	12½	26½	11⅜	82⅛	44⅞	61⅝	78⅜	95⅛	111⅞		

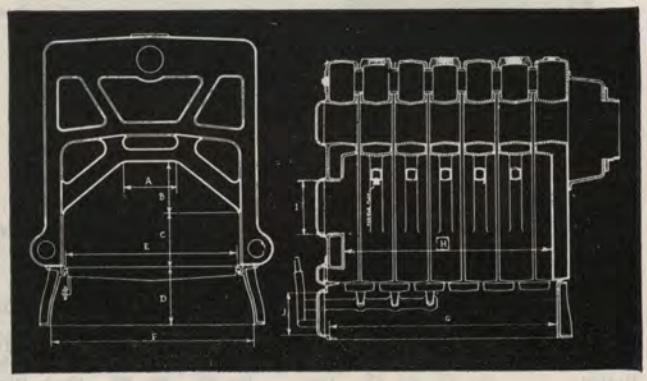
ROUND BOILER MEASUREMENTS FOR STOKERS AND OIL BURNERS



Size	A	B	C	D	E
17-inch	10	15	23½	12	22½
20-inch	12¼	18	26¼	12½	23¼
23-inch	14⅞	21	30	13½	24¼
26-inch	14¾	23¾	32½	14	24½
29-inch	15	27¼	38	13½	25⅝

Size	F	G	H	I
17-inch	25	13¾	10⅝x8¾	12 x7¼
20-inch	27½	16⅝	11⅝x9¼	13⅝x8
23-inch	31	19½	12⅞x9	15⅞x8
26-inch	34½	22⅝	14½x9	21⅛x9⅛
29-inch	39½	25¾	14½x9	21¼x8¾

SECTIONAL BOILER MEASUREMENTS FOR STOKERS AND OIL BURNERS



Size	A	B	C	D	E	F
24-in.	13¾	5	12¾	11½	19¾	27¼
32-in.	10	9	10	11½	30½	38½
39-in.	12	10¾	12	13	36	45
45-in.	14	12½	13	13	42	51

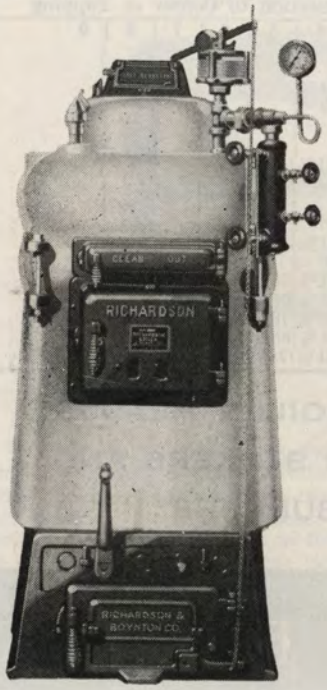
Size	*G	*H	I	J
24-inch	38	40	13¾x 7⅞	14 x 8¾
32-inch	43⅜	46½	15⅞x 8¼	19 x 8¾
39-inch	43⅜	46½	18 x12	22 x10¾
45-inch	49½	51⅝	20 x14	25⅛x10¾

*Measurement for 7 Section Boilers

Add or deduct 6¼ inch per section for 24 inch boilers, 7⅜ inch for 32 inch and 39 inch boilers, and 8⅜ inch for 45 inch boilers.

ROUND BOILERS

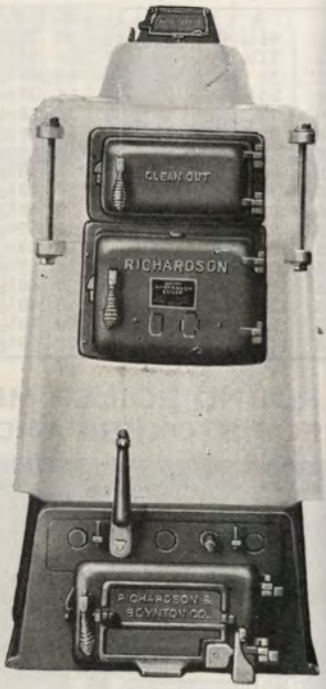
RICHARDSON



17-20-23-26-29 Series

STEAM BOILER FOR COAL, OIL AND GAS

The Richardson Round Steam Boilers are practical, easily operated boilers for residences and small buildings. The firepot, twenty inches deep, will hold sufficient fire all night to insure a warm house in the morning, and will allow long firing periods during the day. These boilers are fitted with Perfect Revolving Triangular Grate Bars, which have exceptional clinker-clearing properties The ash pits have a large door for easy removal of ashes



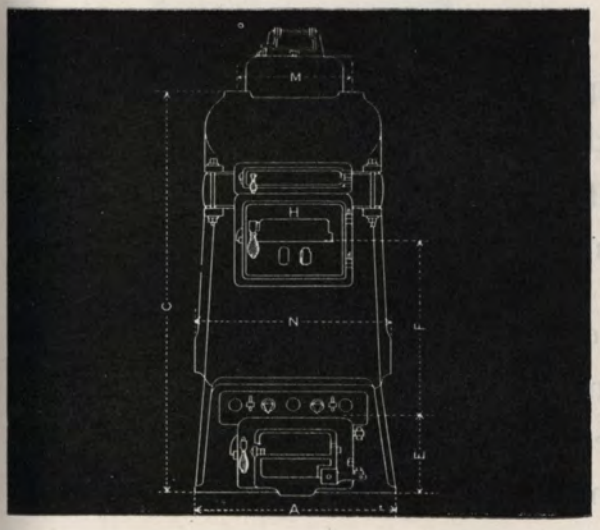
RICHARDSON ROUND BOILERS—SERIES 17-20-23-26-29

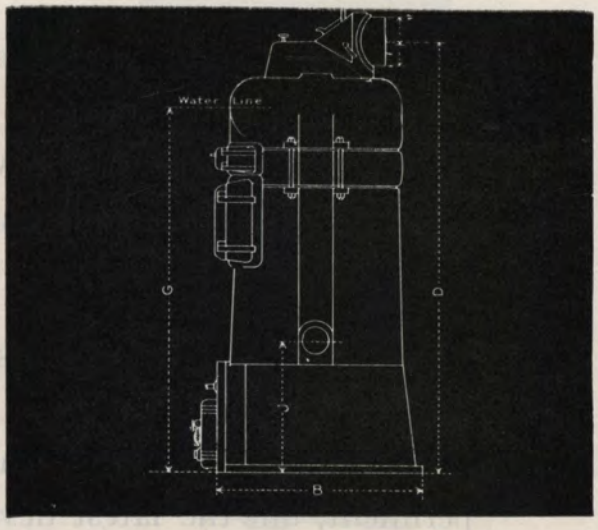
Boiler	STEAM Recommended Net Load Rating Sq. Ft.	E.D.R. Sq. Ft.	Water Line Ins.	WATER Recommended Net Load Rating Sq. Ft.	E.D.R. Sq. Ft.	Grate Area Square Feet	Outlets and Inlets No. & Size Ins.	STEAM AND WATER Diameter Smoke Pipe Ins.	Chimney Size Ins.	Chimney Height Ft.	Appr. Ship. Wt. lbs. Lbs.	Steam Price Each	Appr. Ship. Wt. lbs. Lbs.	Water Price Each
No. 173	300	200	40	——	——	1.58	2-2½	7	8x 8	30	725	$114.30	....	$.....
No. 174	350	215	44¼	550	325	1.58	2-2½	7	8x 8	30	797	120.80	675	104.00
No. 175	425	230	48½	675	350	1.58	2-2½	7	8x 8	30	868	139.20	744	124.40
No. 203	475	275	41	——	——	2.18	2-3	8	8x 8	35	877	137.20	....	.....
No. 204	550	295	45¼	850	450	2.18	2-3	8	8x 8	35	982	143.90	824	135.00
No. 205	650	215	49½	1050	500	2.18	2-3	8	8x 8	35	1076	172.40	916	164.90
No. 233	700	350	44	—	—	2.89	2-3	9	8x12	35	1047	164.30	....	.....
No. 234	800	380	48¼	1350	600	2.89	2-3	9	8x12	35	1174	179.00	979	155.80
No. 235	900	410	52½	1500	650	2.89	2-3	9	8x12	35	1279	211.70	1089	188.50
No. 263	950	495	45¼	——	——	3.70	2-3½	10	8x12	40	1308	185.80	....	.....
No. 264	1050	530	49½	1700	825	3.70	2-3½	10	8x12	40	1487	210.90	1255	183.50
No. 265	1150	570	53¾	1900	900	3.70	2-3½	10	8x12	40	1642	249.80	1415	220.50
No. 266	1250	610	58	2050	975	3.70	2-3½	10	8x12	45	1817	288.90	1587	259.50
No. 294	1300	680	53½	2100	1075	4.59	2-3½	10	12x12	50	2005	264.00	1642	225.80
No. 295	1425	725	58⅞	2300	1150	4.59	2-3½	10	12x12	50	2221	305.30	1864	269.20
No. 296	1550	770	64¼	2500	1225	4.59	2-3½	10	12x12	50	2448	346.70	2090	302.50

ROUND BOILER MEASUREMENTS

RICHARDSON

THIS DIAGRAM IS FOR BOTH STEAM AND WATER BOILERS—SERIES 17-20-23-26-29





			Steam and Water						Steam only				Water only		
No.	A	B	E	F	H	J	K	N	C	D	G	M	C	D	M
173	24	25¼	12	19¼	9 x11½	14½	7	23½	45¼	48¼	40	17¼	38½	42½	17
174	24	25¼	12	19¼	9 x11½	14½	7	23½	49½	53¼	44¼	17¼	42¾	46½	17
175	24	25¼	12	19¼	9 x11½	14½	7	23½	53¾	57¼	48½	17¼	47	50½	17
203	27	28½	12½	20	9½x12½	15½	8	26¾	46¼	50¾	41	19½	39½	44	19½
204	27	28½	12½	20	9½x12½	15½	8	26¾	50½	54¾	45¼	19½	43¾	48	19½
205	27	28½	12½	20	9½x12½	15½	8	26¾	54¾	58¾	49½	19½	48	52	19½
233	30	31½	13½	20½	9½x13½	16½	9	29¾	49¼	54	44	22¾	41½	47¼	22½
234	30	31½	13½	20½	9½x13½	16½	9	29¾	53½	58½	48¼	22¾	45¾	51¼	22½
235	30	31½	13½	20½	9½x13½	16½	9	29¾	57¾	62½	52½	22¾	50	55¼	22½
263	33½	35	14	22	9½x13½	17½	10	32¾	51¼	56¼	45¼	24⅞	43⅛	48¼	24¾
264	33½	35	14	22	9½x15½	17½	10	32¾	55½	60¼	49½	24⅞	47⅛	52¼	24¾
265	33½	35	14	22	9½x15½	17½	10	32¾	59¾	64¼	53¾	24⅞	51⅛	56¼	24¾
266	33½	35	14	22	9½x15½	17½	10	32¾	64	68¼	58	24⅞	55⅛	60¼	24¾
294	38	40	13½	22¼	10 x15½	18	10	35¾	60	67⅞	53½	30⅝	50½	55⅞	24¾
295	38	40	13½	22¼	10 x15½	18	10	35¾	65⅜	70⅛	58⅞	30⅝	55⅞	61⅜	24¾
296	38	40	13½	22¼	10 x15½	18	10	35¾	70¾	75⅜	64¼	30⅝	61¼	66⅝	24¾

Richardson Square Cased Round Boilers

Richardson Square Cased Round Boilers as illustrated on the page following, combine all the qualities of the well-known Richardson Round Boilers with the added advantages of the blue casing, including increased efficiency, attractive appearance, and all at a minimum expense.

These boilers mark to a striking degree the tendency to improve the appearance of the basement in the modern home. At the same time they do not represent a new heating experiment, but the latest development in equipment that has been tried and proved successful.

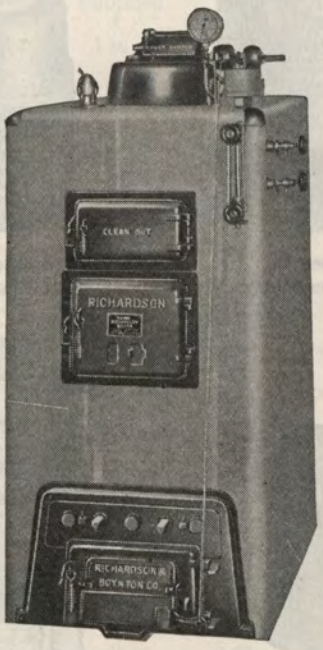
Richardson Square Cased Boilers have a well-insulated casing in high lustre blue that is durable, easy to clean and will not crack or peel. The doors, ashpit front, smoke box and other parts not covered by the casing are coated with enamel. These boilers are equipped with the highest grade accessories.

By installing a Richardson Square Cased Boiler the cellar can be readily transformed into a playroom, card room, billiard room, den, or any of those extra rooms that are a part of the up-to-date home.

Richardson Square Cased Boilers cannot be surpassed for beauty, economy and efficiency in operation.

SQUARE CASED ROUND BOILERS

RICHARDSON



1-S SERIES—STEAM

Square Cased Boiler No.	*Rd. Boiler No.	Rat'g Sq. Ft.	Recommen'd Net load E.D.R. Sq. Ft.	Ht. of Cas'g Ins.	Sq. of Cas'g Ins.	Ap. Ship. Wt., Lbs.	Price Each
1-S-1	174	350	215	50	26½	917	$145.50
1-S-2	175	425	230	54	26½	994	168.00
1-S-3	204	550	295	51	29½	1148	174.90
1-S-4	205	650	315	55	29½	1256	205.50
1-S-5	234	800	380	54	32½	1365	214.20
1-S-6	235	900	410	58	32½	1489	248.90
1-S-7	264	1050	530	55½	36	1698	250.20
1-S-8	265	1150	570	59½	36	1866	291.20
1-S-9	294	1300	680	60	41	2247	307.50
1-S-10	295	1425	725	65	41	2495	351.00

1-W SERIES—WATER

Square Cased Boiler No.	*Rd. Boiler No.	Rat'g Sq. Ft.	Recommen'd Net load E.D.R. Sq. Ft.	Ht. of Cas'g Ins.	Sq. of Cas'g Ins.	Ap. Ship. Wt., Lbs.	Price Each
1-W-1	174	550	325	43½	26½	796	$130.70
1-W-2	175	675	350	47½	26½	879	153.30
1-W-3	204	850	450	44¼	29½	964	165.80
1-W-4	205	1050	500	48¼	29½	1074	198.40
1-W-5	234	1350	600	46¾	32½	1145	188.80
1-W-6	235	1500	650	50¾	32½	1270	225.60
1-W-7	264	1700	825	47½	36	1443	222.60
1-W-8	265	1900	900	51½	36	1616	261.70
1-W-9	294	2100	1075	51	41	1880	269.30
1-W-10	295	2300	1150	56½	41	2128	314.80

SUPER-TEST HOT WATER SUPPLY BOILERS

RICHARDSON

In the modern home there must be hot water in abundance, instantly available, and in sufficient quantity.

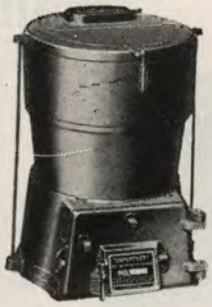
To solve this problem economically the Richardson & Boynton Co. has developed the SUPER-TEST line of hot water supply boilers in varying sizes to meet the needs of any requirement from the smallest home to the apartment house, or commercial laundry.

These hot water supply boilers are made throughout of a high quality, tough, gray cast iron. Cast iron is rust resistant and will never wear out. Abuse is the only destructive form that will lessen the active life of these hot water supply boilers. Thus, with reasonable care, the owner of one of these boilers may expect continuous and efficient performance for an indefinite period.

Richardson SUPER-TEST hot water supply boilers have built into them the engineering and manufacturing experience of a house that has made heating and cooking aparatus continuously for 93 years. Each boiler, regardless of its size, is tested in the factory to 300 pounds hydrostatic pressure. Before it is shipped, it is mounted and again subjected to a hydrostatic test for a second checking. Thus, the owner and the contractor are safeguarded against breakage, trouble, and interrupted service, which so frequently result when improperly tested hot water supply boilers are used.

In apartment houses, laundries, swimming pools, restaurants, hotels, factories, office buildings, theatres, stores, churches, and private dwellings, a Richardson SUPER-TEST hot water supply boiler can safely be relied upon to meet all requirements for hot water, economically, efficiently, with freedom from trouble or repair expense, over a long period of years. No other system of hot water supply gives the same service at so low a cost of operation.

There is a size of SUPER-TEST hot water supply boiler especially designed for every need. Be careful to specify the correct size. A boiler too large or too small for the work expected of it cannot perform satisfactorily.



Number 41
82 gal. capacity

Number 100
85 to 100 gal. capacity.

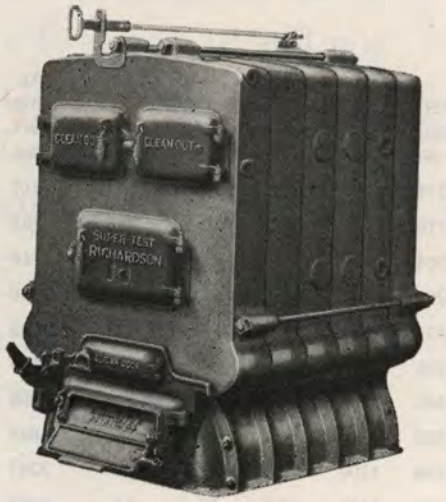
Number 1010
150 to 175 gal. capacity.

Number 1175
700 gal. capacity.

Clean Water Guaranteed by the Richardson Galvoxide Process

In many parts of the country the chemical composition of the water makes it impossible to obtain clean hot water, free from rust or discoloration except by using brass sections in tank and laundry heaters. Several years ago the Richardson & Boynton Co. perfected a new type of heater with a galvoxide water section so treated by a special process that it is not affected by the chemical properties in the water in any way whatsoever. The result is that clean hot water is available at all times.

Thousands of successful installations in past few years have so established the Richardson Galvoxide Heater as a solution for the clean water problem that the Richardson & Boynton Co. now guarantee their Galvoxide Water Heaters to keep the water free from rust or discoloration.



Number 2X46
2100 Gallon Capacity
TESTED TO 300 LBS. HYDROSTATIC PRESSURE MAXIMUM ALLOWABLE WORKING PRESSURE 125 LBS.

SUPER-TEST HOT WATER SUPPLY BOILERS

RICHARDSON

SUPER-TEST HOT WATER SUPPLY BOILERS

No.	Cap. in Gals.	Approx. No. of Families Supplied	Grate Area in Feet	Height to Top Outlet Inches	Height to Return Inlet Inches	Number and Size Flow & Return Tappings	Width Base Inches	Size Smoke Pipe Inches	Size of Chimney Inches	Height of Chimney in Ft.	Ship. Wt., lbs.	Price Each
241	40	1	.54	16½	14½	2-1	13⅝	6	8½x8½	35	115	$ 16.50
2100	85 to 100	1 to 3	.54	24½	11½	F-1-1¼ R-2-1¼	16	5	8½x8½	35	215	30.50
‡2105 brick ring	with 100to125	2 to 3	.54	30½	17½	F-1-1¼ R-2-1¼	16	5	8½x8½	35	235	36.00
‡2106	125 to 150	3 to 4	.54	32	11½	F-1-1½ R-2-1½	16	5	8½x8½	35	290	45.00
2110	150 to 175	4 to 5	.54	32	11½	F-1-1½ R-2-1½	16	6	8½x8½	35	300	58.00
2112	250 to 300	5 to 8	.78	34¾	12¾	F-1-2 R-2-2	18½	6	8½x8½	35	390	75.00
2114	350 to 400	8 to 10	1.07	36¾	13¾	F-1-2½ R-2-2½	21½	6	8½x8½	35	490	104.00
‡1173	400 to 500	10 to 13	1.58	38½	14½	F-2-2½ R-2-2½	25¼	7	8½x8½	35	700	138.00
‡1174	600	13 to 15	1.58	42¾	14½	F-2-2½ R-2-2½	25¼	7	8½x8½	35	775	160.00
‡1175	700	15 to 17	1.58	47	14½	F-2-2½ R-2-2½	25¼	7	8½x8½	35	850	180.00
‡1204	800	17 to20	2.18	43¾	15½	F-2-3 R-2-3	28½	8	8½x8½	35	920	192.00
‡1205	950	20 to 23	2.18	48	15½	F-2-3 R-2-3	28½	8	8½x8½	35	1025	214.00
‡1234	1100	23 to 27	2.89	45¾	16½	F-2-3 R-2-3	31½	9	8x12	35	1070	250.00
‡1235	1300	27 to 33	2.89	50	16½	F-2-3 R-2-3	31½	9	8x12	35	1200	290.00
‡1264	1600	33 to 40	3.70	47⅛	17½	F-2-3½ R-2-3½	35	10	8x12	40	1385	360.00
‡1265	1850	40 to 46	3.70	51⅛	17½	F-2-3½ R-2-3½	35	10	8x12	40	1550	420.00

Base bottoms can be furnished with Nos. 100-105-106-1010.

1173 furnished with base, firepot, and dome.

1174-1204-1234-1264 furnished with base, firepot, one intermediate and dome.

1175-1205-1235-1265 furnished with base, firepot, two intermediates and dome.

SECTIONAL

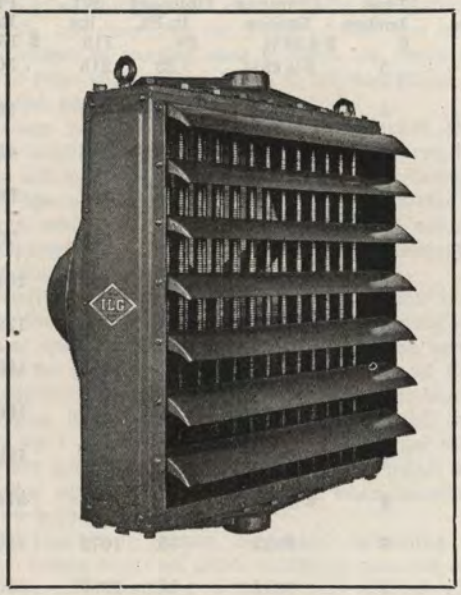
SUPER-TEST HOT WATER SUPPLY BOILERS

No.	Cap. in Gals.	Approx. Number of Families Supplied	Grate Area in Feet	Height to Top Outlet Inches	Height to Return Inlet Inches	Number and Size Flow and Return Tappings	Width Base Inches	Length Base Inches	Size Smoke Pipe Inches	Chim. Size Inches	Chim. Height Feet	Ship. Wt., lbs.	Price Each
‡2X46	2100	46 to 52	4.59	49⅜	15⅛	F-2—3 R-2—3	30½	37 7/16	9	8x12	40	6490	
‡2X47	2500	52 to 62	5.50	49⅜	15⅛	F-2—3 R-2—3	30½	43 11/16	9	8x12	40	3100	
‡2X48	2900	62 to 72	6.41	49⅜	15⅛	F-3—3 R-2—3	30½	49 15/16	9	12x12	50	3540	
‡3X26	3200	72 to 80	8.33	55	15¾	F-2—4 R-2—4	42⅞	43⅞	12	12x12	40	3990	
‡3X27	3700	80 to 93	10.00	55	15¾	F-3—4 R-2—4	42⅞	51¼	12	12x12	40	4560	
‡3X28	4200	93 to 110	11.67	55	15¾	F-3—4 R-2—4	42⅞	58⅝	12	12x12	50	5190	
‡3X29	4700	110 to 130	13.34	55	15¾	F-4—4 R-2—4	42⅞	66	12	12x12	60	5840	

Write For Prices

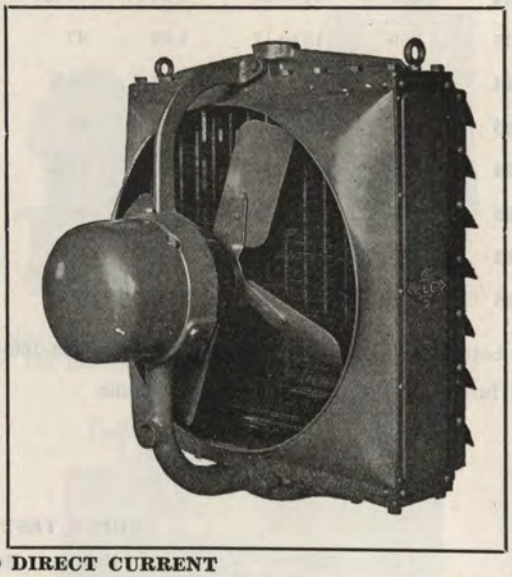
2X46—3X26—Sectional Boilers with six sections.
2X47—3X27—Sectional Boilers with seven sections.
2X48—3X28—Sectional Boilers with eight sections.
3X29—Sectional Boilers with nine sections.

A *new and improved* UNIT HEATER *BY*



ILG-the pioneers of good unit heating

As the pioneer builders of propeller fan unit heaters, ILG recognizes that the efficiency of any forced air method of heating is measured by the performance of the motor. Note, then, that the ILG Unit Heater is the only one made with a fully enclosed, self-cooled motor with ball bearing lubrications. The drawn copper coil, cabinet, fan, and motor are all ILG designed and ILG built. Constructed throughout in the ILG plant, this heater carries one name-plate and one responsibility that guarantees full satisfaction.



Recommended for

High-Ceiling Stores. Offices, Foyers, Factories, Garages, Airplane Hangers, etc.

Remarkably compact and light in weight, the ILG Unit Heater is an all-purpose unit, particularly suited to high-ceilinged installations. Specialty of purpose and excellence of workmanship are reflected in its low-cost operation.

As the man who pays the fuel bills, you should investigate the dollar and cent advantages of ILG Dynamic Heating. Get the actual facts and figures about lower heating costs and the easy, economical installation of ILG Unit Heaters.

ALTERNATING CURRENT 60 CYCLE AND DIRECT CURRENT

Unit Heater Size	R.P.M.	Weight Pounds	ALTERNATING CURRENT 1 PHASE 110/220 VOLTS Constant Speed	Two Speed	2-3 Phase 220-440 Volts Cons't Spd.	DIRECT CURRENT 110-220 Volts
13U	855	140	$110.00		.....	.....
13U	1140	140	106.00	$127.00*	.....	$119.00
13U	1750	140	116.00	.....	.....	125.00
17U	855	176	142.00		.....	153.00
17U	1140	176	138.00	159.00	.....	153.00
17U	1750	180	157.00	.....	$174.00	168.00
19U	855	226	184.00		180.00	172.00
19U	1140	226	180.00	184.00	180.00	172.00
19U	1755	232	254.00		201.00	286.00
25U	685	440	305.00		301.00	413.00
25U	855	440	301.00	301.00	301.00	413.00
25U	1140	450	403.00†	.....	301.00	455.00
31U	685	515	462.00		458.00	625.00
31U	855	515	458.00	458.00	458.00	625.00
31U	1140	530	.....	.....	488.00	689.00

* 3 speed 855 R. P. M. Top, $119.00.

† 220 volts only.

50 cycles prices same as 60 cycle.

CONTROLLERS—

1. Single phase two speed motors are equipped with controllers having two speeds and an off position.
2. Two speed controllers are available for 2 and 3 phase motors in each speed as extra equipment.
3. Direct current motors are equipped with enclosed speed regulators.

Here is true

DYNAMIC HEATING

a pronounced saving in fuel

An even warmth, spread and held at the floor level, regardless of outside temperatures—greatly reduced fuel costs—easy, economical installation—and efficient, service-free operation—that's ILG Dynamic Heating—a proven principle of unit heating—introduced in 1917—today giving satisfaction to thousands of well-known concerns.

Using live air, tempered with steam or hot water, the ILG Unit Heater equalizes distribution and speeds circulation, diffusing the heat waves at the working zone like the rays of the sun.

There's no need for hot over-night fires—no long waiting for temperatures to rise in the morning—no cold floor spots—no excessive stagnation of heat at the ceiling.

This new and improved ILG Unit Heater solves the heating, drying, and condensation problems normally encountered in many fields. Suspended in the air by its ring bolts, it floods working zones with warm air, surrounds workers with heat, and keeps them comfortable in all their operations. Mounted over the store vestibule or in the garage, the ILG Unit Heater maintains an even heat, quickly and economically tempering the cold air entering the constantly opened doors. The great volume of air which this unit discharges makes it especially valuable for any drying operation. Paper mills, dye houses, and other industries find this heater satisfactory for overcoming steam condensation problems.

No need for hot over-night fires

ILG

VENTILATION

RADIATORS

RICHARDSON

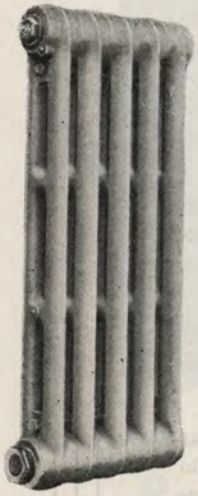
The Richardson Radiator Line is the result of the best engineering that many years' experience has been able to give. These radiators are simple and graceful in design and will blend harmoniously with any scheme of architecture and interior decoration.

This Line includes a wall radiator of light tube design that is unobtrusive and adaptable to unusual room arrangements.

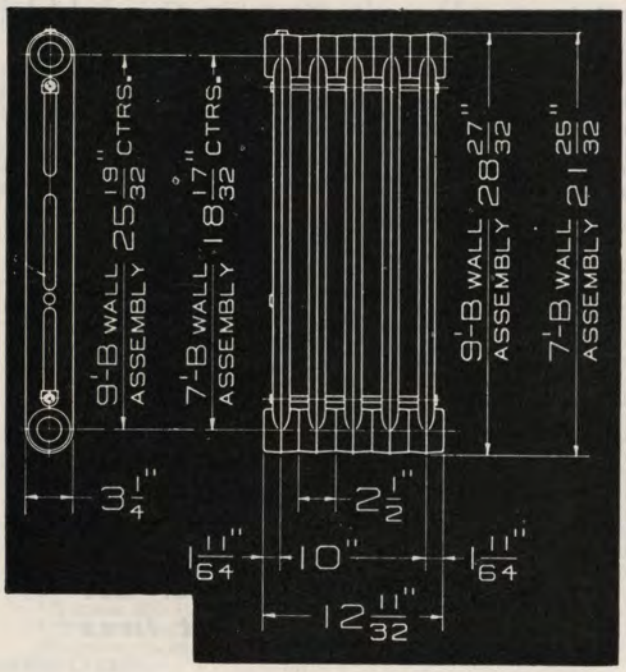
The new Richardson pattern is especially desirable because it combines push nipple flexibility with tubular design, enabling wall radiation to be obtained in exact footage instead of in units of seven and nine feet.

Floor radiators in the Richardson Line are made in a wide variety of sizes and capacities in a design of ultra-modern smartness, making possible many attractive installations that heretofore have been impractical.

NEW TWO-TUBE WALL



A Wall Radiator in the new and lighter tube style, procurable in exact footage requirement.



TWO TUBE WALL RADIATORS

TWO-TUBE WALL RADIATORS FOR STEAM AND WATER

Rad. Nos.	No. of Sections	Ht., Ins.	Width	Distance Center to Center of Tappings	Heating Surface Sq. Ft.
7-B	5	21 33/64	12 7/20	18 17/32	7
9-B	5	28 37/64	12 7/20	25 19/32	9

Thickness without brackets, 3¼ inches; thickness with brackets, 3¾ inches.

All tappings right hand thread unless ordered otherwise on special order.

TWO TUBE WALL RADIATORS CAN ALSO BE SUPPLIED IN ANY NUMBER OF SECTIONS, AS LISTED BELOW:

		$0.63	$0.63
Price per square ft.			
Number of Sections	Length 2½ In. Per Section	7-B Type 1 2/5 Sq. Ft. Per Section	9-B Type 1 4/5 Sq. Ft. Per Section
2	5	2 4/5	3 3/5
3	7½	4 1/5	5 2/5
4	10	5 3/5	7 1/5
5	12½	7	9
6	15	8 2/5	10 4/5
7	17½	9 4/5	12 3/5
8	20	11 1/5	14 2/5
9	22½	12 3/5	16 1/5
10	25	14	18
11	27½	15 2/5	19 4/5
12	30	16 4/5	21 3/5
13	32½	18 1/5	23 2/5
14	35	19 3/5	25 1/5
15	37½	21	27
16	40	22 2/5	28 4/5
17	42½	23 4/5	30 3/5
18	45	25 1/5	32 2/5
19	47½	26 3/5	34 1/5
20	50	28	36
21	52½	29 2/5	37 4/5
22	55	30 4/5	39 3/5
23	57½	32 1/5	41 2/5
24	60	33 3/5	43 1/5
25	62½	35	45
Distance from center of top tappings to center of bottom tappings, inches		18 17/32	25 19/32
Width, inches		3¼	3¼

Radiators tapped 1½ inches, top and bottom both ends.

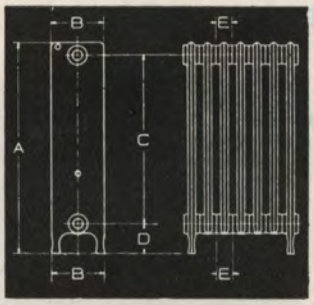
Allow ½ inch for each bushing in estimating length of radiators.

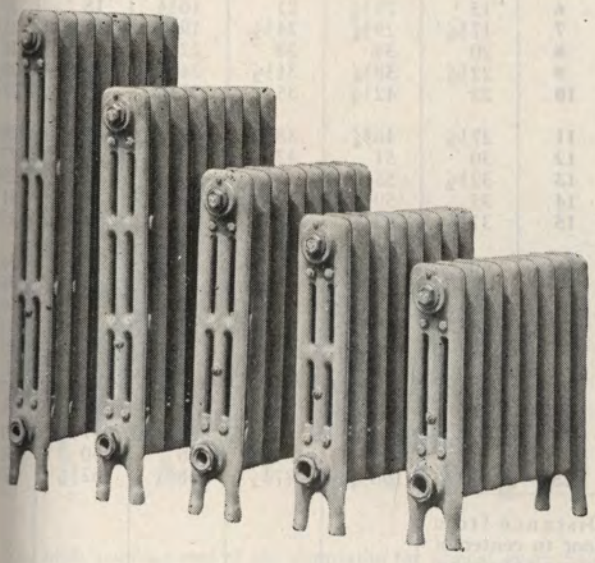
Furnished with standard 4½-inch legs on special order at no extra charge.

RADIATORS

RICHARDSON

THREE-TUBE





A Radiator of high efficiency and limited space-demand for use where a narrow radiator is required, as in halls and bath-rooms.

THREE-TUBE

Height A Ins.	Width B Ins.	C Ins.	D Ins.	E Ins.	Sq. Ft. Per Sec.
38	4⅝	31 3/32	4½	2½	3½
32	4⅝	25 3/32	4½	2½	3
26	4⅝	19 5/64	4½	2½	2⅓
23	4⅝	16 3/32	4½	2½	2
20	4⅝	13 3/32	4½	2½	1¾

FOR STEAM AND WATER

Height, ins.	38	‡32	26	23	‡20
Price per sq. ft. ..	$0.53	$0.53	$0.53	$0.53	$0.53

No. of Sec.	Length 2½ Ins. Per Sec.	38-Inch 3½ Sq. Ft. Per Sec.	32-Inch 3 Sq. Ft. Per Sec.	26-Inch 2⅓ Sq. Ft. Per Sec.	23-Inch 2 Sq. Ft. Per Sec.	20-In. 1¾ Sq. Ft. Per Sec.
2	5	7	6	4⅔	4	3½
3	7½	10½	9	7	6	5¼
4	10	14	12	9⅓	8	7
5	12½	17½	15	11⅔	10	8¾
6	15	21	18	14	12	10½
7	17½	24½	21	16⅓	14	12¼
8	20	28	24	18⅔	16	14
9	22½	31½	27	21	18	15¾
10	25	35	30	23⅓	20	17½
11	27½	38½	33	25⅔	22	19¼
12	30	42	36	28	24	21
13	32½	45½	39	30⅓	26	22¾
14	35	49	42	32⅔	28	24½
15	37½	52½	45	35	30	26¼
16	40	56	48	37⅓	32	28
17	42½	59½	51	39⅔	34	29¾
18	45	63	54	42	36	31½
19	47½	66½	57	44⅓	38	33¼
20	50	70	60	46⅔	40	35
21	52½	73½	63	49	42	36¾
22	55	77	66	51⅓	44	38½
23	57½	80½	69	53⅔	46	40¼
24	60	84	72	56	48	42
25	62½	87½	75	58⅓	50	43¾
Distance from floor to center of upper tappings, ins.		35 11/32	29 11/32	23 37/64	20 11/32	17 11/32
Distance from floor to center of bottom tappings, ins.		4½	4½	4½	4½	4½
Width, ins.		4⅝	4⅝	4⅝	4⅝	4⅝
Width at legs, ins.		4⅝	4⅝	4⅝	4⅝	4⅝

Radiators tapped 1½ inches, top and bottom both ends.

Allow ½ inch for each bushing in estimating length of radiators.

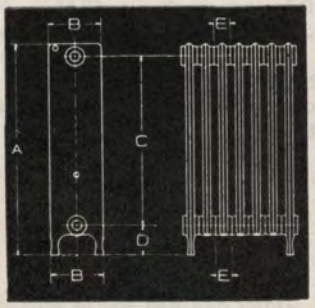
Furnished with 6-inch legs or without legs on special order

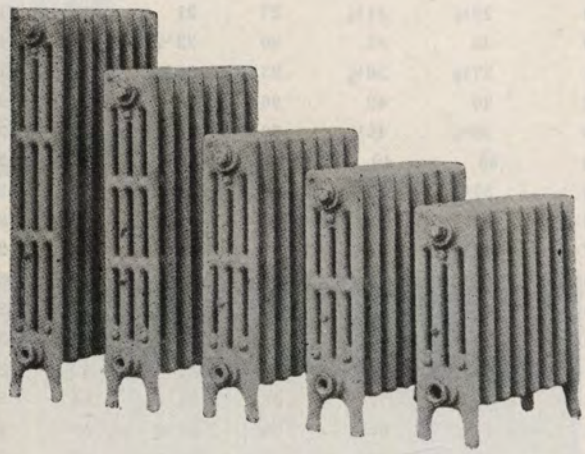
Items marked thus ‡ not carried in stock but shipped direct from factory.

RADIATORS

RICHARDSON

FOUR-TUBE





The Four-Tube Radiator, particularly the lower heights, is favored for bedrooms, where unobstrusive harmony with the furnishings is so necessary.

FOUR-TUBE

Height A	Width B	C	D	E	Sq. Ft. Per Sec.
38"	6 5/16"	31 15/32"	4 1/2"	2 1/2"	4 1/4
32"	6 5/16"	25 9/16"	4 1/2"	2 1/2"	3 1/2
26"	6 5/16"	19 9/16"	4 1/2"	2 1/2"	2 3/4
23"	6 5/16"	16 17/32"	4 1/2"	2 1/2"	2 1/2
20"	6 5/16"	13 9/16"	4 1/2"	2 1/2"	2 1/4

FOR STEAM AND WATER

Ht., ins.	38	‡32	26	23	‡20
Price per sq. ft. ..	$0.58	$0.58	$0.58	$0.58	$0.58

Number of Sections	Length 2½ Inches Per Section	38-Inch 4¼ Sq. Ft. Per Section	32-Inch 3½ Sq. Ft. Per Section	26-Inch 2¾ Sq. Ft. Per Section	23-Inch 2½ Sq. Ft. Per Section	20-Inch 2¼ Sq. Ft. Per Section
2	5	8½	7	5½	5	4½
3	7½	12¾	10½	8¼	7½	6¾
4	10	17	14	11	10	9
5	12½	21¼	17½	13¾	12½	11¼
6	15	25½	21	16½	15	13½
7	17½	29¾	24½	19¼	17½	15¾
8	20	34	28	22	20	18
9	22½	38¼	31½	24¾	22½	20¼
10	25	42½	35	27½	25	22½
11	27½	46¾	38½	30¼	27½	24¾
12	30	51	42	33	30	27
13	32½	55¼	45½	35¾	32½	29¼
14	35	59½	49	38½	35	31½
15	37½	63¾	52½	41¼	37½	33¾
16	40	68	56	44	40	36
17	42½	72¼	59½	46¾	42½	38¼
18	45	76½	63	49½	45	40½
19	47½	80¾	66½	52¼	47½	42¾
20	50	85	70	55	50	45
21	52½	89¼	73½	57¾	52½	47¼
22	55	93½	77	60½	55	49½
23	57½	97¾	80½	63¼	57½	51¾
24	60	102	84	66	60	54
25	62½	106¼	87½	68¾	62½	56¼
Distance from floor to center of upper tappings, inches.....		35 31/32	30 1/16	24 1/16	21 1/32	18 1/16
Distance from floor to center of bottom tappings, inches.....		4½	4½	4½	4½	4½
Width, inches...		6 5/16	6 5/16	6 5/16	6 5/16	6 5/16
Width at legs, inches.....		6 5/16	6 5/16	6 5/16	6 5/16	6 5/16

Radiators tapped 1½ inches, top and bottom both ends.

Allow ½ inch for each bushing in estimating length of radiators.

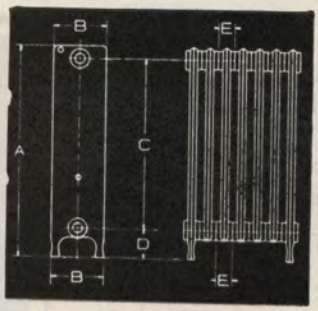
Furnished with 6-inch legs or without legs on special order.

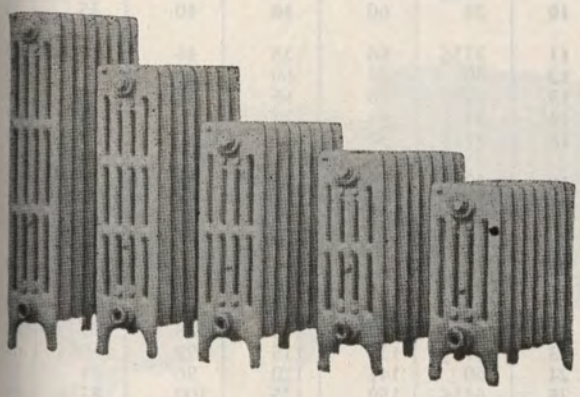
Items marked thus ‡ not carried in stock but shipped direct from factory.

RADIATORS

RICHARDSON

FIVE-TUBE





The most popular size of all, adaptable for almost every heating requirement, in a style and effect that is appreciated by discriminating architects and builders.

FIVE-TUBE

Height A	Width B	C	D	E	Sq. Ft. Per Sec.
38″	8″	31 15/32″	4½″	2½″	5
32″	8″	25 9/16″	4½″	2½″	4⅓
26″	8″	19 9/16″	4½″	2½″	3½
23″	8″	16 17/32″	4½″	2½″	3
20″	8″	13 9/16″	4½″	2½″	2⅔

FOR STEAM AND WATER

Ht., ins.		38	‡32	26	23	20
Price per sq. ft. ..		$0.58	$0.58	$0.58	$0.58	$0.58
Number of Sections	Length 2½ Inches Per Section	38-Inch 5 Sq. Ft. Per Section	32-Inch 4⅓ Sq. Ft. Per Section	26-Inch 3½ Sq. Ft. Per Section	23-Inch 3 Sq. Ft. Per Section	20-Inch 2⅔ Sq. Ft. Per Section
2	5	10	8⅔	7	6	5⅓
3	7½	15	13	10½	9	8
4	10	20	17⅓	14	12	10⅔
5	12½	25	21⅔	17½	15	13⅓
6	15	30	26	21	18	16
7	17½	35	30⅓	24½	21	18⅔
8	20	40	34⅔	28	24	21⅓
9	22½	45	39	31½	27	24
10	25	50	43⅓	35	30	26⅔
11	27½	55	47⅔	38½	33	29⅓
12	30	60	52	42	36	32
13	32½	65	56⅓	45½	39	34⅔
14	35	70	60⅔	49	42	37⅓
15	37½	75	65	52½	45	40
16	40	80	69⅓	56	48	42⅔
17	42½	85	73⅔	59½	51	45⅓
18	45	90	78	63	54	48
19	47½	95	82⅓	66½	57	50⅔
20	50	100	86⅔	70	60	53⅓
21	52½	105	91	73½	63	56
22	55	110	95⅓	77	66	58⅔
23	57½	115	99⅔	80½	69	61⅓
24	60	120	104	84	72	64
25	62½	125	108⅓	87½	75	66⅔
Distance from floor to center of upper tappings, inches.....		35 31/32	30 1/16	24 1/16	21 1/32	18 1/16
Distance from floor to center of bottom tappings, inches.....		4½	4½	4½	4½	4½
Width, inches...		8	8	8	8	8
Width at legs, inches.....		8	8	8	8	8

Radiators tapped 1½ inches, top and bottom both ends.

Allow ½ inch for each bushing in estimating length of radiators.

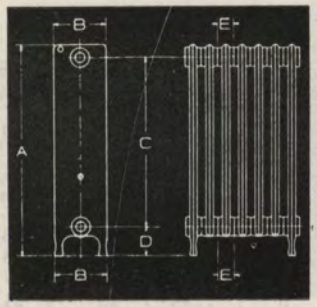
Furnished with 6-inch legs or without legs on special order.

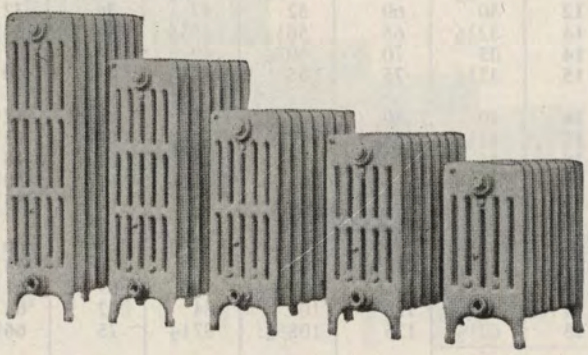
Items marked thus ‡ not carried in stock but shipped direct from factory.

RADIATORS

RICHARDSON

SIX-TUBE





Where heat in large volume is required and little wall space is available, the Richardson Six-tube radiator will be found unusually valuable.

SIX-TUBE

Height A	Width B	C	D	E	Sq. Ft. Per Sec.
38″	9 11/16″	31 15/32″	4 1/2″	2 1/2″	6
32″	9 11/16″	25 9/16″	4 1/2″	2 1/2″	5
26″	9 11/16″	19 9/16″	4 1/2″	2 1/2″	4
23″	9 11/16″	16 17/32″	4 1/2″	2 1/2″	3 1/2
20″	9 11/16″	13 9/16″	4 1/2″	2 1/2″	3

FOR STEAM AND WATER

Ht., ins.	‡38	‡32	‡26	‡23	‡20
Price per sq. ft. ..	$0.58	$0.58	$0.58	$0.58	$0.58
Number of Sections	Length 2½ Inches Per Section	38-Inch 6 Sq. Ft. Per Section	32-Inch 5 Sq. Ft. Per Section	26-Inch 4 Sq. Ft. Per Section	23-Inch 3½ Sq. Ft. Per Section	20-Inch 3 Sq. Ft. Per Section
2	5	12	10	8	7	6
3	7½	18	15	12	10½	9
4	10	24	20	16	14	12
5	12½	30	25	20	17½	15
6	15	36	30	24	21	18
7	17½	42	35	28	24½	21
8	20	48	40	32	28	24
9	22½	54	45	36	31½	27
10	25	60	50	40	35	30
11	27½	66	55	44	38½	33
12	30	72	60	48	42	36
13	32½	78	65	52	45½	39
14	35	84	70	56	49	42
15	37½	90	75	60	52½	45
16	40	96	80	64	56	48
17	42½	102	85	68	59½	51
18	45	108	90	72	63	54
19	47½	114	95	76	66½	57
20	50	120	100	80	70	60
21	52½	126	105	84	73½	63
22	55	132	110	88	77	66
23	57½	138	115	92	80½	69
24	60	144	120	96	84	72
25	62½	150	125	100	87½	75
Distance from floor to center of upper tappings, inches.....		35 31/32	30 1/16	24 1/16	21 1/32	18 1/32
Distance from floor to center of bottom tappings, inches.....		4½	4½	4½	4½	4½
Width, inches...		9 11/16	9 11/16	9 11/16	9 11/16	9 11/16
Width at legs, inches.....		9 11/16	9 11/16	9 11/16	9 11/16	9 11/16

Radiators tapped 1½ inches, top and bottom both ends.

Allow ½ inch for each bushing in estimating length of radiators.

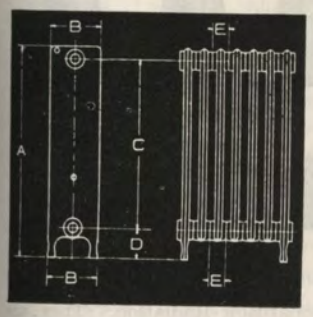
Furnished with 6-inch legs or without legs on special order.

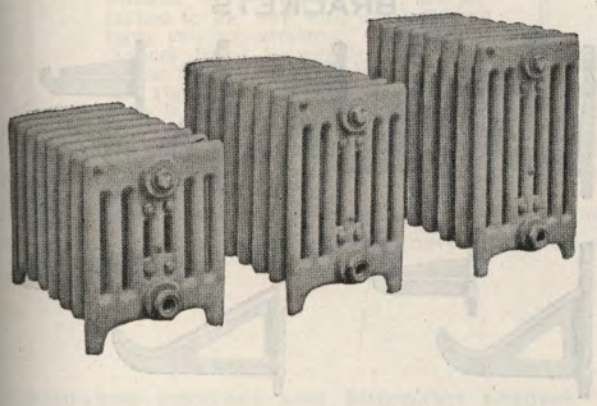
Items marked thus ‡ not carried in stock but shipped direct from factory.

RADIATORS

RICHARDSON

SEVEN-TUBE





Where a radiator is required to fit under wnidow sills and still give a maximum of heat, the Richardson Window Radiator meets both demands most effectively.

SEVEN-TUBE

Height A	Width B	C	D	E	Sq. Ft. Per Sec.
20″	11⅜″	15 1/16″	3″	2½″	3⅔
17″	11⅜″	12 1/16″	3″	2½″	3
14″	11⅜″	9 1/16″	3″	2½″	2½

FOR STEAM AND WATER

Height, inches	20	17	14
Price per sq. ft.	$0.58	$0.58	$0.58

Number of Sections	Length 2½ Inches Per Section	20-Inch 3⅔ Sq. Ft. Per Section	17-Inch 3 Sq. Ft. Per Section	14-Inch 2½ Sq. Ft. Per Section
2	5	7⅓	6	5
3	7½	11	9	7½
4	10	14⅔	12	10
5	12½	18⅓	15	12½
6	15	22	18	15
7	17½	25⅔	21	17½
8	20	29⅓	24	20
9	22½	33	27	22½
10	25	36⅔	30	25
11	27½	40⅓	33	27½
12	30	44	36	30
13	32½	47⅔	39	32½
14	35	51⅓	42	35
15	37½	55	45	37½
16	40	58⅔	48	40
17	42½	62⅓	51	42½
18	45	66	54	45
19	47½	69⅔	57	47½
20	50	73⅓	60	50
21	52½	77	63	52½
22	55	80⅔	66	55
23	57½	84⅓	69	57½
24	60	88	72	60
25	62½	91⅔	75	62½
Distance from floor to center of upper tappings, inches.....		18 1/16	15 1/16	12 1/16
Distance from floor to center of bottom tappings, inches.....		3	3	3
Width, inches.....		11⅜	11⅜	11⅜
Width at legs, inches...		11⅜	11⅜	11⅜

Radiators tapped 1½ inches, top and bottom both ends.

Allow ½ inch for each bushing in estimating length of radiators.

Furnished with 4½-inch legs or without legs on special order.

RADIATOR ACCESSORIES
RICHARDSON

TAPPING SPECIFICATIONS FOR RICHARDSON RADIATION

Unless otherwise specified, all radiation will be tapped in accordance with the following schedules:

One-Pipe Steam

Bottom only one end bushed

0 to 24 square feet .....1 inch
25 to 60 square feet .....1¼ inches
61 square feet and up .....1½ inches

Two-Pipe Steam

Bottom only both ends bushed

0 to 48 square feet .....1 x ¾ inch
49 to 96 square feet .....1¼x1 inches
97 square feet and up .....1½x1¼ inches

Water

Bushed bottom only both ends.

0 to 40 square feet .....1 inch
41 to 72 square feet .....1¼ inches
73 square feet and up .....1½ inches

Vapor

Bushed top and bottom opposite ends.

0 to 30 square feet ..... ½x½ inch Ecc.
31 to 60 square feet ..... ¾x½ inch Ecc.
61 to 125 square feet .....1 x½ inch Ecc.
126 to 175 square feet .....1¼x½ inch Ecc.

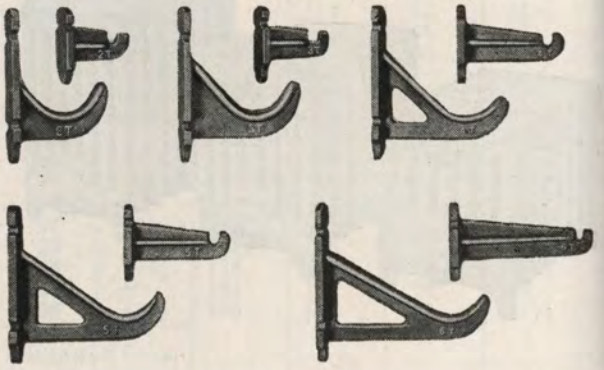
All air valve tappings are for ⅛ inch pipe tap. All radiator tappings are 1½ inch right hand threads, unless ordered specially. Briggs standard threads are used.

One center leg is assembled in all radiators from 21 sections to 35 sections; two from 36 sections to 51 sections; and three in all radiators longer than 51 sections.

RADIATOR ACCESSORIES
PEDESTALS

Cast Iron Pedestals can be furnished for placing under legs of all styles and heights of Richardson Radiation. They are manufactured in the following heights: ½, 1, 1½, 2, 2½, 3, 3½, 4, 4½, 5 and 6 inch.

BRACKETS



Concealed Brackets can be furnished for Richardson Legless Radiation when used as Wall Radiation. These Brackets, as illustrated, can be furnished for 2, 3, 4, 5, and 6 Tube Radiation, and on special order for 7 Tube Radiation.

Concealed Brackets consist of two parts—the top bracket which grips the rod just underneath the top hub holding the radiator upright, and the bottom bracket, which supports the radiator underneath the bottom hub.

At least two brackets are necessary for every legless radiator, and we recommend that all radiators up to and including twenty-five sections should have two brackets for support, and an additional pair of brackets for every twenty-five additional sections.

RADIATOR HANGERS

LITTLE GIANT TUBULAR

No. 1 & 2

The Little Giant Tu-Bu-Lur Bracket fits all tube type radiators, requires but one anchor bolt, and is not visible when in position. It is the only hanger providing adjustment in and out from wall; for vertical alignment; laterally in either direction; for raising or lowering radiator; to line radiator in exact plumb. Made in one style, three sizes, of certified malleable iron, navy gray. Delivered ready to install.

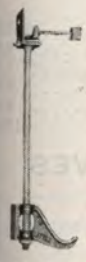
No. 3

Tu-Bu-Lur No. 1 for 3, 4 & 5 Tube Radiators

Tu-Bu-Lur No. 2 for 5, 6 & 7 Tube Radiators

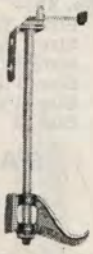
Tu-Bu-Lur No. 3 for Wall Radiators

LITTLE GIANT BOTTOM HUNG HANGERS



Style L

Little Giant Bottom Hung Hangers hold all types of wall and tube radiators. These hangers support the radiator from the bottom, and have an adjustable brace to hold the top of the radiator in position. They are attached to the wall with one bolt, and have two adjustments. Little Giant Bottom Hung Hangers come in two styles: Style L, which holds the radiator 1⅞ inches from the wall, and Style P which holds it 2½ inches from the wall. Each style is made in two sizes: for wall radiation and 3 to 6 tube radiators, and for Double Wall radiation and 7 tube radiators. Made of certified malleable iron, navy gray, delivered complete ready to install.



Style P

RADIATOR BRONZES AND BRONZING LIQUIDS

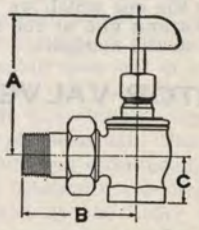
Richardson Gold and Aluminum Bronzing powders are very carefully ground, and our bronzing liquids are the ideal vehicles for the flotation of the powders. These liquids have the correct drying property, good adhesive qualities, and freedom from any acidity which causes rapid discoloration of bronze powders.

Gold and Aluminum Bronze Powders are supplied in half-pound and one-pound cans. Special prices are available for lots of 50 pounds or more.

Bronzing Liquid is supplied in half-gallon and one-gallon cans. Special prices for 25 gallons or more.

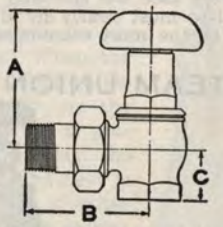
Richardson Bronzing Brushes are especially made for use in bronzing radiators and other metal work.

DIMENSIONS OF RADIATOR VALVES



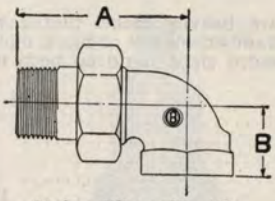
Steam Angle Type No. 10

Size	A	B	C
½	3 3/8	2 5/16	7/8
¾	3 5/8	2 3/4	1 3/32
1	4	3 1/8	1 1/4
1 1/4	4 1/4	3 1/2	1 1/2
1 1/2	4 7/8	3 11/16	1 11/16
2	5 5/8	4 5/16	2



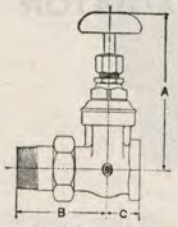
Hot Water Radiator Valve No. 20

Size	A	B	C
½	2 3/4	2 5/16	61/64
¾	2 7/8	2 3/4	1 7/64
1	3 1/4	3 1/8	1 19/64
1 1/4	3 3/8	3 1/2	1 15/32
1 1/2	3 3/4	3 11/16	1 3/4
2	5	4 5/16	2 9/32



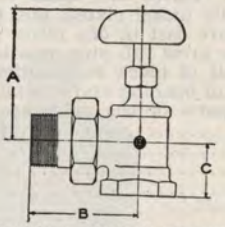
Union Elbow No. 30

Size	A	B
½	2 5/16	7/8
¾	2 3/4	1 3/32
1	3 1/8	1 1/4
1 1/4	3 1/2	1 1/2
1 1/2	3 11/16	1 11/16
2	4 5/16	2



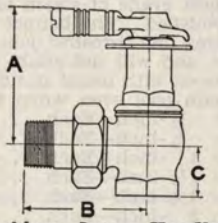
Radiator Gate Valve with Union No. 40

Size	A*	B	C
½	3 3/4	2 3/8	15/16
¾	4 1/2	2 3/4	1
1	5 3/8	3	1 1/8
1 1/4	6 1/4	3 3/8	1 1/4
1 1/2	6 3/4	3 9/16	1 7/16
2	7 7/8	4 1/8	1 9/16



Packless, Wheel Handle No. 50

Size	A	B	C
½	3 1/8	2 7/16	7/8
¾	3 1/8	2 3/4	1 3/32
1	3 1/4	3 1/8	1 1/4
1 1/4	3 3/8	3 1/2	1 1/2
1 1/2	3 1/2	3 11/16	1 11/16



Packless, Lever Handle No. 60

Size	A	B	C
½	3 1/4	2 7/16	7/8
¾	3 1/4	3/4	1 3/32
1	3 3/8	3 1/8	1 1/4
1 1/4	3 1/2	3 1/2	1 1/2
1 1/2	3 5/8	3 11/16	1 11/16

RADIATOR VALVES & ELBOWS

The Heating Specialties described in this section are all made by nationally known manufacturers and all have been carefully tested by Richardson & Boynton Company, both for quality of workmanship and material, and for operation in connection with Richardson & Boynton boilers and radiators. In every case the specialty described is the one which we have found to most nearly fit all our specifications and at the same time be the most economical purchase on the market.

The Richardson & Boynton Company carries large stocks of these specialties in its various warehouses and plants, and is in a position to fill all orders immediately.

Guarantee

All heating specialties shown in this section are guaranteed only to the extent of furnishing new parts for any found defective.

STEAM UNION RADIATOR VALVES

These valves are made from the highest grade of steam bronze. The highest grade of steam bronze. The designs are heavy and substantial and the distribution of metal is such as to provide strength where most needed.

The two surfaces forming the union seat, consisting of an angle and a curved surface, readily make a steam tight joint. Each part is carefully finished by the use of specially designed machining tools and gauges, receives a very careful inspection before assembly, and is tested under maximum pressure after assembly. This saves a great deal of make-up time and insures lasting service.

No. 10—Steam radiator valves are heavily nickel plated with the trimmings highly polished. Handwheels are of black molded composition. All valves are threaded right hand on both inlet and outlet.

Size ½-inch—Each	$ 3.70
Size ¾-inch—Each	4.30
Size 1 -inch--Each	5.10
Size 1¼-inch—Each	6.40
Size 1½-inch—Each	8.40
Size 2 -inch—Each	13.60

HOT WATER UNION RADIATOR VALVES

No. 20—Hot Water Union Radiator Valves are made of the highest grade of steam bronze, heavily nickel plated, and highly polished. The bonnet and body are cast in one piece, eliminating one threaded joint. The disc gives full pipe area to the flow, and will not stick. Handwheels of black composition reinforced with metal stand the strain of opening and closing, and remain cool even when the metal parts of the valve are hot.

Size ½-inch—Each	$ 3.25
Size ¾-inch—Each	3.70
Size 1 -inch—Each	4.50
Size 1¼-inch—Each	5.75
Size 1½-inch—Each	7.30
Size 2 -inch—Each	12.00

HOT WATER UNION ELBOWS

No. 30—Union Elbows are heavy pattern, accurately machined and finished, and carefully tested. They are threaded right hand on both inlet and outlet.

Size ½-inch—Each	$1.75
Size ¾-inch—Each	2.00
Size 1 -inch—Each	2.50
Size 1¼-inch—Each	3.30
Size 1½-inch—Each	4.25
Size 2 -inch—Each	7.20

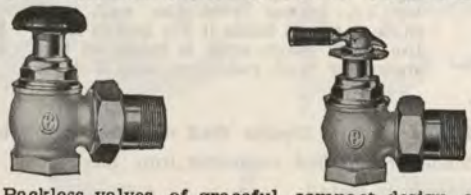
STEAM GATE UNION RADIATOR VALVES

Gate valves are intended for use where a full pressure, unobstructed flow, or a complete shut-off is desired. No. 40 gate valves are equipped with the Flextite Disc which insures an absolutely tight shut-off. This valve combines the advantages found in solid wedge and double disc construction. It provides perfect contact between both faces of the gate and the body seats, preventing leakage under all conditions. The Flexitite Disc is of one-piece construction which gives maximum strength and precision of operation.

No. 40—

Size ½-inch—Each	$ 3.65
Size ¾-inch—Each	4.25
Size 1 -inch—Each	5.20
Size 1¼-inch—Each	6.60
Size 1½-inch—Each	9.00
Size 2 -inch—Each	12.80

PACKLESS RADIATOR VALVES



These Packless valves, of graceful, compact design, are proof against leaks, and are operated with one smooth, easy turn of the handle. No. 50 has a molded, heat-resisting hand-wheel of comfortable grip which remains cool at all times. The lever handle on No. 60 is made of wood with a black enamel finish and a highly nickeled graduated plate.

In these valves the main leak-preventing element is a ground joint between the stem and the center-piece—ground in each time the valve is operated. Heavy clean-cut threads on stem and disc carrier insure smooth, easy operating, and tight seating of the disc. The perfectly machined and formed union between valve body and tail piece is a distinctive feature of these valves. A steam-tight joint can almost be made by hand. Heavy union nut and tail piece insure strength in those parts which receive much abuse.

Sizes: ½, ¾, 1, 1¼. 1½, and 2 inch.

No. 50 Wheel Handle

Size ½-inch—Each	$ 3.70
Size ¾-inch—Each	4.30
Size 1 -inch—Each	5.10
Size 1¼-inch—Each	6.40
Size 1½-inch—Each	8.40
Size 2 -inch—Each	13.60

No. 60 Lever Handle

Size ½-inch—Each	$3.70
Size ¾-inch—Each	4.30
Size 1 -inch—Each	5.10
Size 1¼-inch—Each	6.40
Size 1½-inch—Each	8.40
Size 2 -inch—Each	13.60

AUTOMATIC AIR AND VACUUM VALVES

Richardson Air and Vacuum Valves substitute heat for the cold air inside of radiators. They immediately convert any new or old steam heating apparatus into highly successful Vacuum Systems, with a tremendous saving in fuel consumption. Radiators heat faster, the range of temperature is much greater, more uniform and easily maintained. Richardson Air and Vacuum Valves are easily and quickly installed, and pay for themselves many times over in savings in fuel. All valves are guaranteed for five years, if properly installed.

NO. 1 SYPHON AIR VALVE

No. 1—Syphon Air Valve is used in connection with No. 3 Quick Vent Air Valve, the former being placed on the radiator, and the latter on the end of the main. These valves automatically and rapidly vent the air from the radiators because of their large air ports, channels and large float diaphragms. This correct mechanical construction allows the valves to open quickly and automatically and insures the complete venting of the air before the valve closes. When the air has been completely vented from the radiators, and steam or water has taken its place, the valves automatically close. There is no leaking from water logged radiators. Tapped ⅛ inch. Each $1.80

NO. 3 QUICK VENT AIR VALVE

No. 3—Quick Vent Air Valve is used, on the end of the main, with Number 1 Syphon Air Valve. These valves have shells of hard drawn extra heavy gauge sheet brass, and caps of solid brass rod which will not dent. They positively separate air and condensate. Their use insures rapid and complete discharge of air from the steam system and radiators as soon as the pressure is developed. Tapped ¼ inch. Each $2.80

NO. 2 AIR AND VACUUM VALVE

No. 2—Air and Vacuum Valve is used with No. 4 Quick Vent Air and Vacuum Valve, the former on the radiator and the latter on the end of the main. The use of these valves insures the highest efficiency in any steam heating system. They are sturdily constructed of extra heavy gauge sheet brass and the caps are of solid brass rod, which will not dent. Unusually large float diaphragms produce positive closing. Separate air channels, large air ports and heavily wrought brass bases insure long service and uninterrupted efficiency. Tapped ⅛ inch. Each $4.10

NO. 4 QUICK VENT AIR AND VACUUM VALVE

No. 4—Quick Vent Air and Vacuum Valve is used with Number 2 Air and Vacuum Valve. Once pressure is raised, the valve permits the air to rapidly pass out of the radiators. When the air is all out, hot steam passes into the air valves which immediately close, automatically, by the heat of the steam. The steam, therefore, is prevented from escaping into the room. When the room temperature desired is reached, and heat is checked at the boiler by thermostat or other wise, the water in the boiler soon stops boiling and passing steam. At this point the air in the room tries to force its way back into the radiators. But this cold air cannot pass the Richardson Valve, for a vacuum is established inside the system and the same amount of fire in the boiler that would ordinarily stop giving heat altogether, continues to give heat for several hours under the influence of the vacuum. Thus great fuel economies are realized, less attention to the heating system is necessary, and constant radiation is maintained. Tapped ¼ inch. Each $5.60

No. 5

No. 6

The No. 5 and No. 6 are used in place of No. 3 and 4 respectively on larger systems where more air must be expelled.

No. 5—Each $10.40
No. 6—Each 14.20

No. 7 is for end of main installation on extra large systems where No. 1 is used on radiators.

No. 7—Each $4.20

RADIATOR VALVES

SIPHON AIR VALVES

For One Pipe Gravity Systems.

Permits all air to escape until steam reaches the valve when instantaneous closure is made. Noiseless in operation. Takes care of sudden charges of water. The siphon automatically discharges all the water back into the radiator. Has ⅛ inch radiator connection. "Special short siphons" supplied to permit installation in narrow pattern radiators or 1 inch pipe radiators. Maximum guaranteed operating pressure, 10 lbs.

No. 1—Hoffman Siphon Air Valve, 2⅛ inches high. Each $1.90

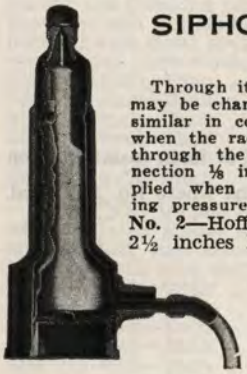
AIRPORT AIR VALVES

The Airport is a Hoffman tested and guaranteed air valve in the medium price field. It is small, attractive in appearance and strongly built. All metal construction and non-adjustable. For cast iron radiation, and in straight shank pattern.

The sensitive thermostatic action of the air port makes it especially suited to this service. Due to the small amount of prime heating surface in units of concealed type, it is most essential that the unit be freed of all air given up by condensing steam. A small quality of air will blanket a large percentage of the heating surface, with a corresponding reduction in heat output. As the Airport, like all other Hoffman Valves operate at slight changes in temperature, its use assures full heat from the entire heating surface.

No. 70—For venting radiators or heating units of one or two-pipe gravity steam systems. Size, conn: ⅛ inch. Maximum guaranteed operating pressure: 10 lbs. Each $1.76

SIPHON AIR AND VACUUM VALVES



Through its use an ordinary one pipe steam system may be changed into a vacuum type. This valve is similar in construction to the No. 1 but in addition when the radiator is once freed of air, return of air through the vent port is prevented. Radiator connection ⅛ inch. "Special short siphons" can be supplied when required. Maximum guaranteed operating pressure, 10 lbs.

No. 2—Hoffman Siphon Air and Vacuum Valve, 2½ inches high. Each $5.90

VACUUM VALVE

The No. 77 Hoffman Valve establishes a new standard of value in vacuum type air valves. It includes many of the features for which the No. 2 Hoffman Valve is famous, such as the patented Double Air Lock and an adaptation of the Hoffman separate air-and-water channel construction.

The valve is small and neatly designed. Long, efficient service is obtained from the nickel silver valve pin. Base and nipple connection is a one-piece hot brass forging, giving the valve exceptional strength.

No. 77—For venting radiators or heating units of one-pipe gravity vacuum systems. Prevents return of air through the valve. Size conn: ⅛ inch. Maximum Guaranteed Operating pressure: 10 lbs. Each $4.10

QUICK VENT VALVES

For use in venting mains, risers, Vento Stacks, coils, etc. All air is freely vented through a ⅛ inch vent port without steam loss, but valve does not close against water. Standard connection ¾ inch. Supplied with ¼ inch connection when so ordered. Maximum guarateed operating pressure, 10 pounds. List price with ¾ inch or ¼ inch connections.

No. 4—Quick Vent Valve, 1½ inches high. Each $3.80

QUICK VENT VALVE

The No. 44 Quick Vent Valve is similar to the No. 4 in operation and application. Air is freely vented through a 1/16 inch vent port. Valve closes against steam loss, but it should not be used where water is liable to be encountered as it does not contain a float member. Where water is a factory, use the No. 5 Valve.

The No. 44 is equipped with a 1-inch female connection. which permits installation on a 1 inch female connection, which permits installation on a 1-inch nipple without the use of a coupling. Maximum guaranteed operating pressure 10 lbs.

No. 44—Each $3.00

QUICK VENT FLOAT AIR VALVE

No. 5 Hoffman Quick Vent Float Air Valve is for similar service, as Nos. 4 and 44, in addition, may be used for venting mains which end less than 18 inches above boiler water line, or for other conditions where water is encountered. This valve is constructed with Double Shell and operates similar to the Hoffman No. 1. Connection ⅜ inch Maximum guaranteed operating pressure for valves with 1/16 inch port, 10 lbs.: for 3/16 inch port, 3 lbs. When ordering specify port size.

No. 5—Each $12.30

RADIATOR VALVES

QUICK VENT FLOAT AIR AND VACUUM VALVE

The No. 6 Hoffman Quick Vent Float Air and Vacuum Valve is used for all quick venting services where return of air through the valve is to be prevented. It is recommended for venting steam mains of one-pipe vacuum systems which end less than 18 inches above the boiler water line.

No. 6—Each $18.70

VACUUM VENT VALVES

No. 16 Hoffman Vacuum Vent Valve is designed to vent steam mains of one-pipe vacuum systems which end 18-inches or more above the boiler water line. Air is freely vented without steam or water loss and return of air is prevented by the "Double Air Lock"—air check and vacuum diaphragm. It is also adapted for any service where return of air to the system is not desirable and where water in small amounts is encountered. Pipe connections, ¾ inch Vent Port, 1/8 inch. Maximum guaranteed operating pressure, 10 lbs.

No. 16—Each $8.50

RETURN LINE VALVES
(OR RADIATOR TRAPS)

These valves are installed on the return side of the radiator and permit discharge of air and condensation into the return main but close the vent port on contact with steam. Because of their wide range of operation from 0 to 50 lb. valves may be installed in systems where steam is supplied through a reducing valve and perfect operation obtained even when reducing valve fails to function. Termostats may be changed from one body to another of the same size as Hoffman Return Line Valves are non-adjustable. Therefore, it is easy to comply with engineers' specifications, which require removal of the thermostats, while system is being cleaned. The No. 8 Valve is made in ½-inch size and can be supplied in Angle, Straightway, Right and Left Hand Offset Patterns. The normal capacity is 200 sq. ft. of direct cast iron radiation; port diameter all pressures up to 50 lb., ¼-inch. The No. 9 Valve is made in ¾-inch size, Angle and Straightway Patterns only, having a normal capacity of 600 sq. ft. of direct cast iron radiation. For pressures under 15 lb. valve is supplied with 5/16-inch port and 7/32-inch port for pressures of 15 to 50 lb.

No. 8—Return Line Valve, 1¼ inches high. Each.....$6.00

SYPHON AIR VALVE

DOLE

A dependable air valve of the thermostatic type which operates noiselessly and automatically. Fool-proof construction, non-adjustable — finest materials and precision workmanship throughout. Distinctive appearance. Chromium plated. Guaranteed for five years. Packed in display boxes of 1 dozen.

No. 1D—Each $1.50

SYPHON AIR VALVE
AIR VALVES

The Dole No. 1933 Automatic Air Valve meets every requirement of an efficient "vent" for one pipe steam heating system radiators.

The following particulars are note-worthy:

1. This valve is entirely automatic in operation—it is impossible to tamper with it.
2. It instantly "locks" in steam after air removal.
3. Performance is just as efficient on steady as on intermittent venting.
4. This valve cannot leak water.
5. Flake, dirt and spray cannot enter vent seat.
6. The shut-off is positive—the seating pin being machined and pressed to a perfect radius.
7. No adjustment is necessary—the venting seat is screw set and brazed into position.
8. The conical design of the float defeats capillary attraction.
9. The diaphragm of the float is made from special spring bronze sensitive to internal thermostatic pressure.
10. The syphon drain removes condensation.
11. The Dole No. 1933 Thermostatic Air Valve is made with brass and bronze throughout.
12. It is attractively nickel plated a thoroughly reliable yet reasonably priced valve.

Dole 1933 Radiator Air Valves—Each $0.86

RADIATOR VALVES

VACUUM VALVE

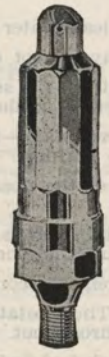
A unique valve embodying a new application of principles. Triple-action construction in a vacuum primer—a bellows—a thermostatic float. They hold the vacuum and seal comfort in radiators.

The new design is beautifully finished in the modern way—lustrous, non - tarnishable, highly - polished chromium plating. These combined advantages make the Dole Vacuum Valve No. 2-B the outstanding vacuum valve on the market today. Its use means more heat from less fuel, fewer trips to the basement, constant comfort regardless of severe weather—dependable, noiseless, automatic operation—no "radiator static." Written guarantee for 5 years.

No. 2-B—Each $4.00

Has the same triple action construction, design and finish as the No. 2B Vacuum Valve, except that it is used for ventnig mains. Made for use with either ¾ inch male I. P. T. or ⅜ inch female I. P. T.

No. 6B—Each $4.00



No. 3-C—Thermostatic type, for venting mains. For use with No. 1 Syphon Air Valve. Chromium plated. Guaranteed for 5 years. Made with ¾-inch Iron Pipe Thread. Each....$2.50

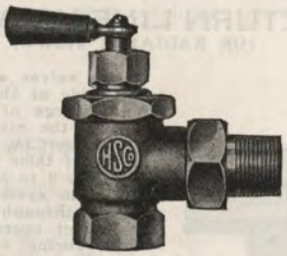
MARVAL VENTING VALVES

The Marval is designed for any low pressure, one-pipe gravity steam heating system. Requires no adjustment on the job. Valve is sealed and cannot be tampered with. Shipped ready for installation. Valve is entirely automatic in operation. Vents all air at all temperatures. Closes thermostatically for steam—is self-draining, which prevents waterloggoing and spitting. The float closes the valve promptly against water. Assures maximum efficiency on old or new radiators.

Marsh "Valve-A-Teria"—(Contains 12 Marvel Air Valves Retailing at $1.25 each—Total $15.00.)

Marval Air Valves—(In small lots, Retail at $1.25 each).
Each $0.75

Converts all Ordinary Steam Systems Into Modern Heating Plants



Quick-Opening, semi-packless type intended for vacuum pump installation or for vapor systems where modulation is not required. Valve is made in ¾-inch size only, having a capacity up to 200 sq. ft. direct cast iron radiation; maximum operating pressure 15 lbs. It is heavily nickel-plated and has polished trimmings. Regularly supplied in lever handle type. On special orders, wood wheel handles, lock shields, closed tops or extended stems furnished.

No. 19—Hoffman Radiator Valve, 1¼ inches high. Each..$4.50

RICHARDSON STEAM GAUGES

This gauge is carefully made, and accurately calibrated. It has baked blue finish case and non-glare dial, with large, legible graduations. The gauge works on the Bourdon-tube principle, and has a siphon to clear the tube of condensation. It registers in pounds, 0 to 30 pound limits.

Steam Gauge—Each $3.60

RICHARDSON COMPOUND RETARD GAUGES

Retard Gauge—For low pressure boilers. Graduated in ounces up to 10 pounds and in divisions of 5 pounds from 10 to 30 pounds. This gauge is of the same excellent standard of manufacture as the regular steam gauge, including baked blue finish case. It is highly accurate, and gives exact knowledge of the pressure within the boiler. Each $7.00

RICHARDSON COMBINATION ALTITUDE AND PRESSURE GAUGES

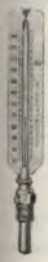
These gauges are graduated for both altitude and water pressure in pounds, for both open and closed systems. The height of the water is accurately recorded from 0 to 70 feet and the pressure of the water from 0 to 60 pounds. The gauges work on the Bourdon-Tube principle. The blue finish case is baked and gauges are equipped with non-glare dials with legible figures.

Altitude and Pressure Gauges—Each ....$..

RICHARDSON THER-ALTI-METERS

The instrument indicates height of water and temperature of water on the same dial—one instrument instead of two. The temperature is indicated by a hand on a wide scale marked in degrees Fahrenheit, operated by the expansion of special thermostatic metal, and the temperature is shown accurately at any degree. This gauge contains no mercury or liquids. The Altitude gauge is operated by a Bourdon spring. The instrument is carefully made and tested before leaving the factory. Does not have cock.

RICHARDSON HOT WATER THERMOMETERS



These thermometers are accurate temperature recorders, each individually calibrated in the factory before shipment. The bulb rests in a mercury bath which makes a perfect metallic contact between the bulb and the socket.

RICHARDSON BOILER CLEANSER—BOILERENE

Richardson Boilerene is an exceptionally efficient cleaning agent which will clean a heating system in thirty minutes, soften hard water instantly, prevent foaming, and by removing grease, oil and pipe dope from the system will keep the water line steady. Boilerene will take the gyp or alkali completely out of a water supply. It contains no lye, salsoda, caustics, oxalic acid, or soap. Boilerene is harmless and will not injure rubber packing. Richardson Boilerene is also without equal for cleaning new plumbing systems, valves, traps, automobile radiators, paint brushes, enameled ware, overalls and all other articles which come in contact with grease and oil.

HERCULES BOILER SOLDER

Hercules Boiler Solder is a scientifically compounded metallic powder that makes a permanent metallic repair. Hercules Boiler Solder is recommended by leading heating engineers for use in all steam and hot water boilers.

Hercules Boiler Solder—In one pound packages. Per lb...$5.50

HERCULES BOILER LIQUID

Permanently repairs leaks in heating boilers without shutting down. Hercules boiler liquid is a scientific compound for repairing leaks in steam boilers and hot water systems. Should be used in new installations for sealing sand holes defective castings, imperfect pipe threads, etc. Is an effective product for removing scale and also to prevent scale from forming. Does not create unpleasant fumes.

Hercules Boiler Liquid—Quart cans. Each $2.50

SAFETY FEEDERS

MC DONNELL "30 SERIES"

WITH EMERGENCY SWITCH FEATURE

Of all devices a safety device must work right. The record of thousands of Mc Donnell Boiler Feeders installed on all types and sizes of boilers is absolute proof that McDonnell Feeders "Keep the boiler water line where it belongs" regardless of feed water or operating conditions.

The McDonnell No. 30 Safety Feeder Series includes feeders for all sizes of boilers which are equipped with the No. 31 Emergency Switch to give ideal protection to the oil-fired or stoker-fired boiler. All of these feeders have a number of outstanding features which give them a certainty of operation and freedom from trouble that is shared by no other make. The feed valve in the No. 30 Series is located 4½ inches away from the hot float chamber, and separated from it by a ventilated compartment. As a result, the feed water stays cool—does not reach the critical point at which trouble-making lime and scale deposits on the valve and seat. This construction also isolates all working parts from the hot water and steam of the float chamber.

A sylphon bellows is used between the float chamber and valve toggle, and another similar bellows is used between the toggle compartment and valve chamber. This eliminates stuffing boxes, eliminates leakage and practically does away with friction at these two vital points.

No. 30 Feeders are made in two sizes:

No. 30-S for hand-fired or gas fired boilers below 300 square feet. Maximum steam pressure 15 pounds.

No. 30-L hand-fired or gas-fired boilers above 3000 feet. Maximum steam pressure 25 pounds.

All No. 30 Series Feeders (30-S or 30-L) can be purchased equipped with the McDonnell No. 31 Emergency Switch which represents the last word in protection for the oil-fired or stoker-fired boiler. During all normal operation the feeder takes care of the boiler water line, but if excessive priming or foaming causes the water to leave the boiler faster than the feeder can supply it, the switch stops the burner until the feeder catches up. Unlike the ordinary low water cut-off, the No. 31 Emergency Switch does not stop the oil burner except in the rare emergency, and then only until the emergency has passed.

When desired, a high voltage alarm can be combined with the No. 30-S or No. 30-L Feeder. This switch (the No. 33) closes the circuit when the float in the feeder drops to the danger point.

A variation of the No. 31 Switch is the No. 34 which is the same as the No. 31 with the addition of a low-voltage bell-ringing circuit to notify attendant when burner or stoker has been shut down on account of low water.

The No. 31, No. 33 or No. 34 Switches can be added to any No. 30-S or 30-L Feeder in about five minutes.

No. 30-S—Safety Feeder—(for boilers below 3000 feet.) Each.....$42.00

No. 30-L—Safety Feeder—(for boilers above 3000 feet). Each 52.00

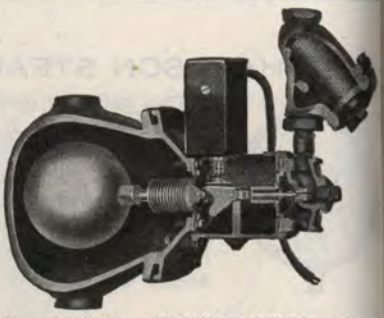
No. 30-S-31—(With emergency switch). Each 54.00

No. 30-L-31—(With emergency switch.) Each 64.00

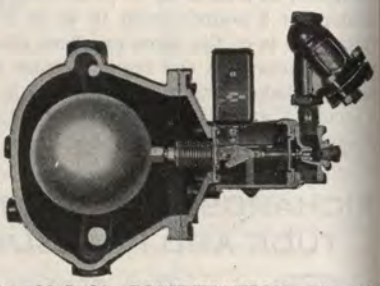
No. 31—Switch (alone). Each 12.00

No. 33—Switch (alone). Each 15.00

No. 34—Switch (alone). Each 16.00

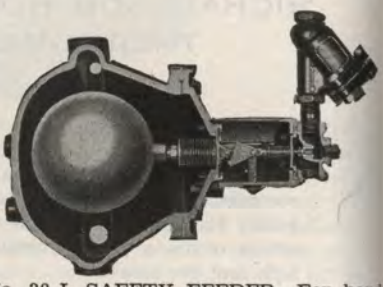


No. 30-S-31 COMBINATION—No. 3 Safety Feeder with No. 31 Emergenc Switch for oil-fired or stoker-fired boi ers up to 3000 Sq. Ft. Maximum stea pressure 15 pounds.



No. 30-L-31 COMBINATION—No. 30-L Safety Feeder with No. 31 Emergenc Switch for oil-fired or stoker-fired boile above 3000 sq. ft. Maximum steam pre sure 25 pounds.

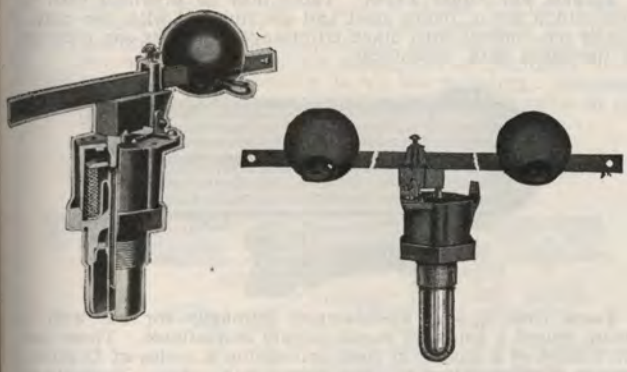
No. 30-S SAFETY FEEDER—For hand-fired or gas-fired boilers up to 3000 Sq. Ft. Maximum steam pressure 15 pounds.



No. 30-L SAFETY FEEDER—For hand-fired or gas-fired boilers above 3000 Sq. Ft. Maximum steam pressure 25 pounds.

SYLPHON WATER REGULATORS

For House Heating Water Boilers and Tank Heating



This is a simple, accurate thermostatic damper especially recommended for automatically controlling the dampers of house heating water boilers and hot water supply boilers when the bulb of the regulator may be screwed directly into the boiler, or into a pipe fitting in the circulating line. This regulator effects substantial savings in fuel, as well as making the service much more uniform and satisfactory.

No. 45—Is equipped with a bulb 4 inches long, and therefore is for use only in boilers having a deep water space. The hub is threaded 1½ inch standard pipe size. With standard weight and lever, this regulator will control water temperature from 120 to 220 degrees Fahrenheit. Dimensions: 10½ inches high, 3⅞ inches in diameter. Bar, 48 inches long. Each $24.00

No. 45A—Is adaptable to screw into boilers having a thin water space, the bulb being only 2 inches long. The hub is threaded to 2-inch standard pipe size. With standard weight and lever this regulator will control water temperature from 120 to 220 degrees Fahrenheit. Dimensions: 9 inches high, 4 inches in diameter. Bar, 48 inches long. These regulators can be exposed to a temporary temperature of 250 degrees Fahrenheit without injury. Each $24.00

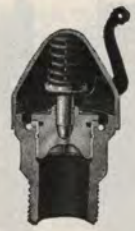
No. 45B—Is the same as 45A except it has a temperature range of 100 to 200 degrees Fahrenheit. Each $12.00

For Domestic Water Supply Boilers and Garbage Burners

No. 46W—The construction and operation of this regulator is similar to that of No. 45, but of smaller size and less powerful, being designed for the smaller hot water heating systems. With standard weight and lever, No. 46 regulator will control water temperature from 130 to 200 degrees Fahrenheit, and can be temporarily exposed to a temperature as high as 220 degrees Fahrenheit without injury. Hub of regulator is threaded for standard 1-inch pipe. The length of the bulb is 1 inch. Dimensions: 8 inches high, 2⅞ inches in diameter. Bar, 40 inches long. Each $19.20

These regulators are furnished complete with 8 feet of chain; 8 feet of wire cable; 4 S-hooks; 2 ceiling pulleys; 1 lever bar and 2 adjusting weights.

CONSOLIDATED POP SAFETY VALVES



These valves are especially designed for house heating boilers and conform to A. S. M. E. standards. They can be set at any desired pressure up to 30 lbs. and are fitted with a hand release lever. Unless otherwise specified, valves are set at 15 pounds at the factory, and sealed; no adjustment can be made after the valve is sealed. The spring will retain its resiliency indefinitely. The valve and seat are non-corrosive and non-sticking, and the heavy malleable iron nut on the base permits a wrench to be used without damaging any part of the valve.

GLOBE SUPPLY VALVES

No. 2 Globe—

This Globe Supply Valve is tested and recommended for working pressures up to 100 lbs. It has full right threads on bonnet and pipe ends. The fiber discs are encased. Rough body with machine finished trimmings. Equipped with malleable iron wheel.

Sizes: ⅛, ¼, ⅜, ½, ¾, 1, 1¼, 1½, 2, and 2½ inches.

BOILER DRAW-OFF COCKS

No. E3494—

These draw-off cocks are sturdily made of solid brass, and designed solely for draining boilers. They are operated by a key. The discharge is threaded for a ¾ inch hose. Tapped for ¾ inch boiler connection.

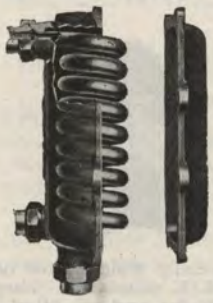
HOT WATER AIR VALVES

WOOD WHEEL AND KEY VALVES

These valves are made of best quality steam brass, heavily nickel-plated both inside and out. They have hexagon bodies and the valves are of the needle type. The wood wheel handles are of the mushroom type. Key valves have squared screw to be opened with a key or slotted for a coin or screw driver. These valves are packed two dozen in a box. Two keys are furnished with each dozen. Valves are made in ⅛ inch size only.

HOT WATER HEATERS

TACO



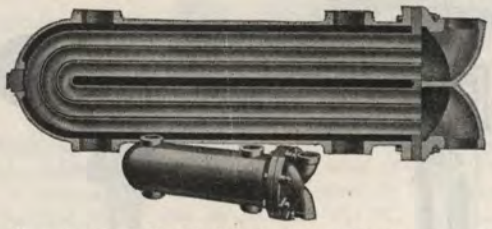
The Domestic Taco is a patented indirect water heater consisting of a cast-iron shell containing a copper coil. It is designed primarily for installation below the water line of steam or vapor heating boilers, but has many other uses.

The shell is provided with suitable conveniently located tapped openings to receive the boiler connections. It is split vertically and provided with a cleanout cover which permit the heater to be quickly and thoroughly cleaned without breaking any pipe connections. The coil is of copper tubing and is permanently expanded into the shell and tested to 1200 pounds pressure, making positive assurance against leakage. Unions are provided for the purpose of reducing cost of installation.

Domestic water is in contact with rustless copper or brass only (not iron); this is an important feature. Furnished in sizes Nos. 30, 1, 1-A, 2, 2-A, 3 and 3-A, suitable for installation with storage tanks of from 20 gallons to 240 gallons capacity.

Fire Pot Heaters—For use in Round Hot Water Heating Boilers. Better than a pipe coil. Fits in the fire pot. Interferes with fire less, and there are no screwed connections to burn out. Fits any make round boiler. Three 1-inch connections on back, one on bottom. Made in both Brass and Malleable Iron

Jackets For Super Tacos. Tacos may be provided with jackets which are of heavy steel and are finished with two coats of baked red enamel with black trimmings. Jackets are thoroughly insulated with Asbestocel.



Tacos Nos. 4, 5 & 6—Designed primarily for use with live steam where a constant steam supply is available. These heaters consist of a cast-iron shell containing a series of U-tubes of copper permanently expanded into a tube plate. Suitable and convenient piping connections are provided to permit the installation of these heaters under widely varying conditions, some of which are shown herewith.

The Super Taco is a patented high grade vertical type domestic water heater made in a wide range of sizes. Hot water flows from the heating boiler to the Taco, transmitting its heat through the copper tubes to the domestic water. It consists of a series of copper tubes mounted in a cast-iron shell. Tubes are permanently expanded into the tube plates and provision is made for each tube to contract and expand with variation of water temperature. The shell has a removable clean-out cover, permitting ready access to interior of the heater for cleaning.

The heads are of bronze and may be removed, giving access to the tubes and permitting each and every tube to be cleaned internally. This is an exclusive Taco feature which is of special importance in communities having hard water. Pipe connections are of liberal size and conveniently arranged.

Super Tacos are installed vertically, which assists in the circulation of the heated domestic water to the hot water storage tank and may be installed as indirect heaters, i. e. wholly below the water line, or as semi-direct heaters, in which part of the heating surface is exposed to steam.

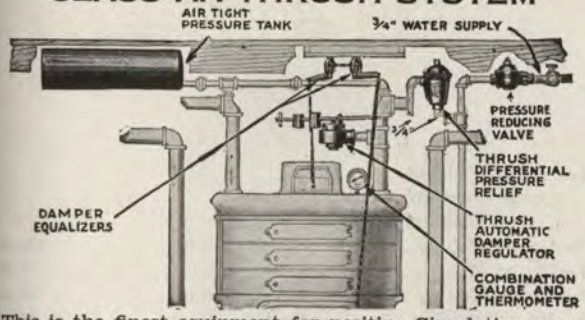
DOMESTIC TACO WITH BRASS UNIONS

Size	Without Union 00	With Union 0	30	1	1-A	2	2-A	3	3-A
Capacity, gals. 100° rise 3 hours									
Below water line, coal fire	30	30	30-40	40-60	60-80	80-120	120-160	160-200	200-240
Below water line, oil fire	.....	.....	.....	.....	30-40	40-60	60-80	80-100	100-120
Below water line, water radiation	15	15	20	30	45	60	90	120	150
Live Steam	40	40	50	75	115	150	225	300	370
Height, inches	8½	8½	11	13	14	16½	19	21½	26
Diameter, inches	5½	5½	5½	5½	7½	7½	9	9	9
Tank conn., inches	¾	¾	¾	¾	1	1	1	1¼	1¼
Boiler conn., innches	1	1	1	1	1¼	1¼	1½	2	2
Shipping weight, pounds	10	10	12	14	22	25	50	65	80

HOT WATER HEATING
THRUSH SYSTEM

There is more Profit in selling Home Comfort instead of pipes and fittings. Thrush Equipment sells because it serves. To the home owner who is the ultimate purchaser of Thrush Equipment, the vital point of interest is the increased healthfulness, comfort and convenience made possible by Hot Water Heat Thrush-equipped. Hot Water Heat is conceded to be the best form of heating from the standpoint of flexibility, convenience and fuel efficiency, but Steam-fitters sometimes experience difficulty in getting circulation to all the radiators. Assuring accelerated, positive circulation is the one big function of all types of Thrush Equipment upon which hinges its great value to the Home Owner, to the Heating Contractor, to the Jobber Salesman and to the Jobber.

CLASS AA THRUSH SYSTEM



This is the finest equipment for positive Circulation ever devised for a Hot Water Heating Plant—**the ultimate achievement in automatic control** for Hot Water Systems.

It not only provides automatic damper temperature regulation, it not only makes a Closed System operating under increased pressure out of any gravity job, with **safe, automatic pressure relief,** but it also provides **automatic filling.** Thrush Pressure Reducing Valve keeps the system filled with water at all times.

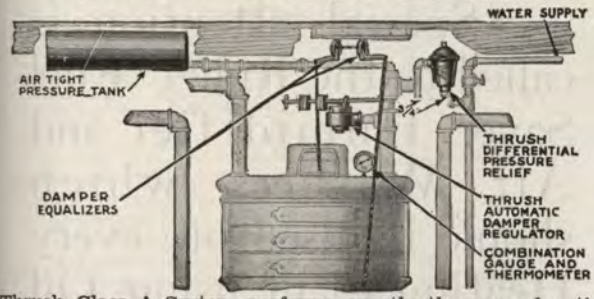
Thrush Class AA System consists of Thrush Automatic Damper Regulator, Thrush Differential Pressure Relief Valve, Thrush Pressure Reducing Valve, Thrush Air Tight Pressure Tank, Thrush Damper Equalizers, special Thermometer and Gauge **with simplified dial for easy reading.**

It costs no more to heat every room in the house in a healthful way with a good heating plant than it does to heat only a part of it with a poor one.

Class AA Consists of:
- Special Pressure Tank.
- ¾-inch Differential Pressure Relief Valve.
- ¾-inch No. 12 Pressure Reducing Valve with Built-in strainer.
- Combination Gauge and Thermometer.
- Automatic Damper Regulator.

No. 0—Up to 350 sq. ft. of radiation.	Each	.....	$68.00
No. 1—Up to 700 sq. ft. of radiation.	Each	.....	71.00
No. 2—Up to 1200 sq. ft. of radiation.	Each	.....	74.00
No. 3—Up to 1000 sq. ft. of radiation.	Each	.....	78.00

CLASS A THRUSH SYSTEM



Thrush Class A System performs exactly the same function as Class AA System except that it does **not** provide for automatic filling of the boiler. Each of the various Thrush devices included in Class AA System with the single exception of Thrush Pressure Reducing Valve **are furnished.** The illustration above shows the equipment as it appears when installed. **Notice the extreme simplicity of the installation.**

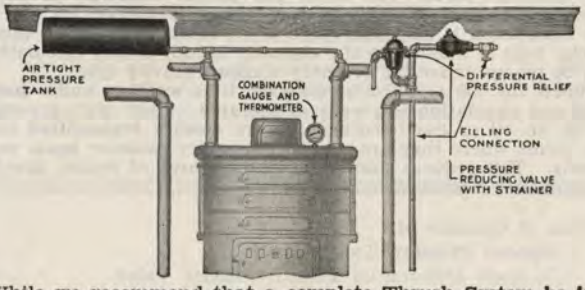
Thrush System will positively make any Hot Water Heating plant **work better.** Temperatures are **automatically** controlled and excessive pressures are **Automatically** relieved. It repays its cost many times in added comfort and convenience.

Thrush System can be added to an old plant just as well as to a new one and can be used on any type of boiler with any method of installation. In many cases, **the saving in pipe and labor** over the ordinary type of tank-in-the-attic installation **will entirely offset the cost of Thrush Equipment.**

Class A Consists of:
- Special Pressure Tank.
- ¾-inch Differential Pressure Relief Valve.
- Combination Gauge and Thermometer.
- Automatic Damper Regulator.

No. 0—Up to 350 sq. ft. of radiation.	Each	.....	$56.00
No. 1—Up to 700 sq. ft. of radiation.	Each	.....	59.00
No. 2—Up to 1200 sq. ft. of radiation.	Each	.....	62.00
No. 3—Up to 2000 sq. ft. of radiation.	Each	.....	66.00

CLASS BB THRUSH SYSTEM



While we recommend that a complete Thrush System **be installed wherever possible,** there are cases where the Regulator may not be required.

The advantages of the Thrush Closed System with the water under pressure, producing an **accelerated circulation,** with increased heat transmission, are so well known that many installations, where other forms of regulation are furnished with the boiler, are made with Class BB System added.

Oil, gas and automatic coal fired boilers for instance do not require Regulators, but **the addition of Thrush Class BB System will greatly increase the heating efficiency of the job,** reduce the running time of the burner and save its cost in fuel the first year.

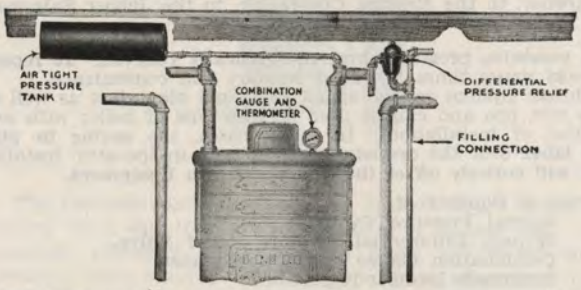
Class BB System consists of Thrush Air Tight Pressure Tank, Thrush Differential Pressure Relief, Thrush Pressure Reducing Valve, Special combination Gauge and Thermometer. **It is automatic filling,** keeping the water at the proper level in the boiler at all times.

Class BB Consists of:
- Special Pressure Tank.
- ¾-inch Differential Pressure Relief Valve.
- ¾-inch No. 12 Pressure Reducing Valve with Built-in Strainer.
- Combination Gauge and Thermometer.

No. 0—Up to 350 sq. ft. of radiation.	Each	.....	$50.00
No. 1—Up to 700 sq. ft. of radiation.	Each	.....	53.00
No. 2—Up to 1200 sq. ft. of radiation.	Each	.....	56.00
No. 3—Up to 2000 sq. ft. of radiati on.	Each	.....	60.00

HOT WATER HEATING
THRUSH SYSTEM

CLASS B THRUSH SYSTEM



This System is designed to fulfill the same purpose as Class BB System on oil, gas and automatic coal fired boilers or on any type of heating plant that is already equipped with a Regulator. It is the same in every respect as Class BB System except that there is no Thrush Pressure Reducing Valve included.

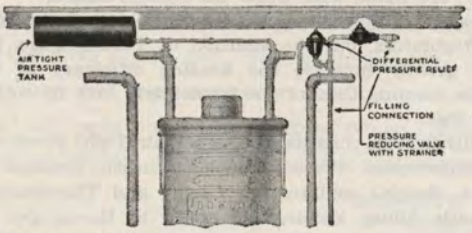
The use of a Thrush Closed System on an oil or gas burning job is specially desirable to get **the proper flexibility** from the heating source. An oil or gas burner **instantly** produces intense heat just as soon as the burner is turned on and if the circulation is sluggish, there is an interval in which much of the heat is wasted up the chimney before proper circulation can be set up under the ordinary sluggish gravity type.

When the job is Thrush equipped, **it is working under pressure and circulation is greatly accelerated.** Heat units generated by an oil or gas burner flame are **quickly transmitted** into the rooms where they are needed and every radiator **heats uniformly.** This reduces stack temperatures and, of course, greatly reduces fuel consumption.

Class B Consists of:
Special Pressure Tank.
¾-inch Differential Pressure Relief Valve.
Combination Gauge and Thermometer.

No. 0—Up to 350 sq. ft. of radiation. Each $38.00
No. 1—Up to 700 sq. ft. of radiation. Each 41.00
No. 2—Up to 1200 sq. ft. of radiation. Each 44.00
No. 3—Up to 2000 sq. ft. of radiation. Each 48.00

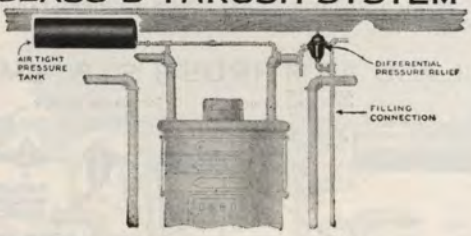
CLASS DD THRUSH SYSTEM



Class DD Consists of:
Special Pressure Tank.
¾-inch Differential Pressure Relief Valve.
¾-inch No. 12 Pressure Reducing Valve with Built-in Strainer.

No. 0—Up to 350 sq. ft. of radiation. Each $46.00
No. 1—Up to 700 sq. ft. of radiation. Each 49.00
No. 2—Up to 1200 sq. ft. of radiation. Each 52.00
No. 3—Up to 2000 sq. ft. of radiation. Each 56.00

CLASS D THRUSH SYSTEM



Class D Consists of:
Special Pressure Tank.
¾-inch Differential Relief Valve.

No. 0—Up to 350 sq. ft. of radiation. Each $34.00
No. 1—Up to 700 sq. ft. of radiation. Each 37.00
No. 2—Up to 1200 sq. ft. of radiation. Each 40.00
No. 3—Up to 2000 sq. ft. of radiation. Each 44.00

See "Liquid Fuel Section" for full information on Oil Burning Equipment of all kinds.

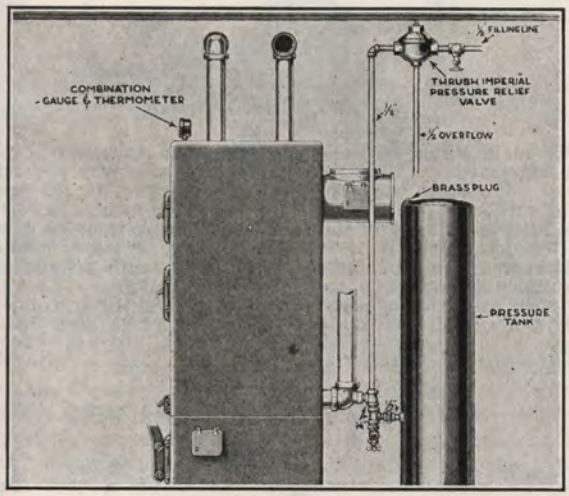
Special attention is called to the Ridler Fuel Saver, Humidifier and Air Washers which should be used on every Heating Plant using Oil for Fuel

HOT WATER HEATING

THRUSH SYSTEM

IMPERIAL SYSTEM

Tank on Floor

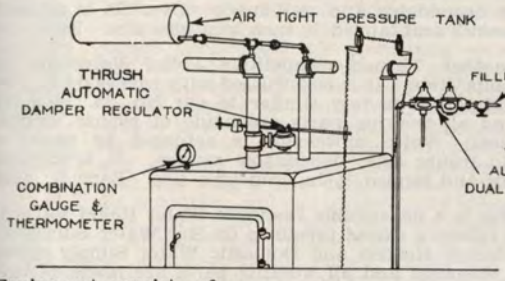


Equipment Consists of:
Special Pressure Tank.
Imperial Relief Valve.
Combination Gauge and Thermometer.

The Thrush Imperial Hot Water Heating System is a Closed Pressure system with a special pressure tank LOCATED ON THE FLOOR CLOSE TO THE BOILER.

No. 1-F—Up to 400 sq. ft. of radiation. Weight 56 pounds. Each $32.00
No. 2-F—Up to 800 sq. ft. of radiation. Weight, 66 pounds. Each $35.00
No. 3-F—Up tc 1250 sq. ft. of radiation. Weight 79 pounds. Each $39.00

TYPE CA THRUSH EQUIPMENT



Equipment consists of:
Special Pressure Tank.
Automatic Dual Control Unit.
Automatic Damper Regulator.
Combination Gauge and Thermometer.

This equipment is the nearest approach to a Thrush System. It is a fine installation and will give excelent service on the majority of jobs.

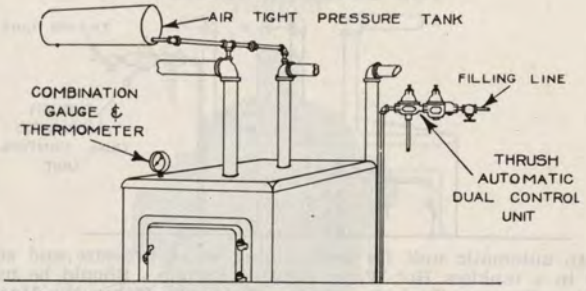
With Standard Dual Control

No. 0—Up to 350 sq. ft. of radiation. Each $57.00
No. 1—Up to 700 sq. ft. of radiation. Each 60.00

With Master Dual Control

No. 0—Up to 350 sq. ft. of radiation. Each $60.00
No. 1—Up to 700 sq. ft. of radiation. Each 63.00
No. 2—Up to 1200 sq. ft. of radiation. Each 66.00

TYPE CC THRUSH EQUIPMENT



Equipment consists of:
Special Pressure Tank.
Automatic Dual Control Unit.
Combination Gauge and Thermometer.

CC equipment will give very satisfactory service and recommend for jobs where both price and performance are important considerations.

With Standard Dual Control

No. 0—Up to 350 sq. ft. of radiation. Each $39.00
No. 1—Up to 700 sq. ft. of radiation. Each 42.00

With Master Dual Control

No. 0—Up to 350 sq. ft. of radiation. Each $42.00
No. 1—Up to 700 sq. ft. of radiation. Each 45.00
No. 2—Up to 1200 sq. ft. of radiation. Each 48.00

We can supply you with your Complete Requirements in Plumbing Supplies.

Write us for full information and prices.

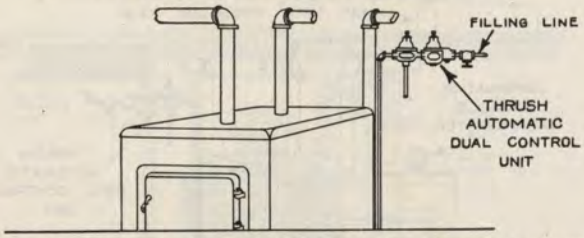
You will find them attractive.

HOT WATER HEATING SYSTEMS

THRUSH

DUAL CONTROL UNIT

FOR TANKLESS SYSTEMS



An automatic unit for maintaining water pressure and supply in a tankless Hot Water Heating System. Should be used with a Pressure Tank for higher efficiency. Either the Master or the Standard Dual Control Unit will handle small jobs in a satisfactory manner, and the entire cost is very small. Not recommended for large jobs. Tapping ½-inch.

(NOT A THRUSH SYSTEM)

DUAL CONTROL UNIT

"STANDARD"

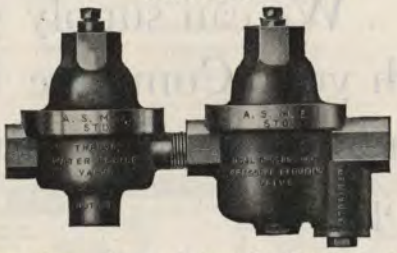


Illustration above shows Automatic Dual Control Unit installed as a tankless system. It automatically maintains necessary supply of water in the boiler and automatically relieves excessive pressures. While we never recommend it as a real heating job, it is a better unit than any similar type on the market and may be installed at exceedingly low cost. Where competition makes it necessary, you can give your customer a tankless job with this equipment—as satisfactory as any tankless installation can be.

"Standard" Automatic Dual Control Unit—Each $17.00

"MASTER"

A larger unit with large waterways. Made of red brass with metal diaphrams. Recommended for jobs where quick filling is desirable.

"Master" Dual Control Unit—Weight, each 8 lbs. Each..$20.00

PRESSURE REDUCING VALVE

NO. 12

For maintaining proper water supply in the heating plant, this automatic Pressure Reducing Valve is a very dependable device. It insures the proper amount of water for the heating plant without any attention from the house owner. The Pressure may be adjusted to suit local conditions as may be required on the job where it is installed. These Pressure Reducing Valves are set at the factory at from 12 to 15 pounds which is suitable for one, two and three-story buildings. The working parts are made of high quality brass, and the instrument is fully guaranteed against defects in workmanship and material.

No. 12—¾-inch. Each $12.00

WATER RELIEF VALVE

No. 35—This is an all brass Water Relief Valve, the same as is used on our Dual Control Unit. It is in demand for cheap competitive "Tank" installation. It does not compare to the Thrush Differential Relief Valve as shown on the following page, but it is a dependable and well made valve. It is adjustable up to 35 pounds and tapped ½ inch iron pipe size. Each..$7.00

No. 40—Another Thrush competitive Relief Valve for even cheaper competition. It is constructed with iron body and brass working parts, and is very similar to our No. 35. The valve member and all working parts are made of bronze with self-cleaning seat. Valve movement is actuated by metal diaphragms to insure safe, dependable service. It is adjustable up to 35 lbs and tapped ½-in. iron pipe size. Each $4.50

No. 45—This is a dependable Domestic Water Relief Valve that is safe for relieving excess pressures on Hot Water Supply Boilers, Gas Storage Heaters and Domestic Water Supply Systems. The valve members and all working parts are made of bronze with self-cleaning seat. Valve movement is actuated by metal diaphragms to insure safe, dependable service. Should be placed in cold water line and connected in side ports, as the overflow is out of the bottom port. Tapping ½ inch. Adjustable 35 to 100 pounds. Each $4.50

No. 55—For certain types of work this Water Relief Valve is especially suitable. It is designed for pressures from 75 lbs. to 150 pounds and tapped for ¾-inch pipe. The valve members and all working parts are made of bronze with self-cleaning seat. Valve movement is actuated by metal diaphragms to insure safe, dependable service. It is designed to be connected into any suitable tee opening on the cold water supply line to protect heater and tank against excess pressure. As the pressure range indicates, it is adjustable. E ach $5.50

VALVES AND REGULATORS

DAMPER REGULATOR

NO. 5

The operation of this Regulator depends upon the temperature change of the water circulating through the heating system and not upon pressure. The Thrush Regulator consists of six 3-inch Multiple Disc Thermostats which set in an inner shell surrounded by the hot water leaving the boiler. The water circulates in a chamber around the inner shell which contains the thermostat. The thermostat consists of 6 separate units and a defect in one of the units does not destroy the efficiency of the remaining units. Therefore, the thermostat is never out of commission. For maintaining different water temperatures, only a simple adjustment of the weights on the lever is necessary. The thermostatic units may be examined or changed while the boiler is in operation by loosening three screws and lifting off the top of the regulator. The head of the Regulator is adjustable and may be swung in any direction necessary to put the regulator rod in direct line with the draft damper chain. Each $18.00

FORCED CIRCULATION SYSTEM

The Thrush Electric Water Circulator is a centrifugal type pump of high efficiency, designed particularly for circulating water in a hot water heating system or in a domestic water supply system. It is entirely self-contained, and is shipped as a unit ready to install. The motor is a special type, AC operated. It is moisture proof and will not short circuit under any climatic conditions. The housing is compact and rugged and designed for hard service. Its operation will not cause radio interference. The Circulator has not restricted openings and is so constructed that it needs no mechanical or spring-operated valves within the Pump. When the system is operated under thermal circulation and the motor is not running, the water flows through the by-pass and past the impeller with absolute freedom. It is especially valuable when used with oil burners, for it gives instant circulation when the burner cuts in. It is also highly beneficial when used with systems supplying greenhouses, apartments, or other installations having long pipe lines. Furnished in the following sizes:

No. 15F—1½-in.—Cap. 1000 sq. ft.—25 gals. Each ....$ 85.00

No. 22—2 -in.—Cap. 2500 sq. ft.—50 gals. Each 95.00

No. 23—3 -in.—Cap. 5000 sq. ft.—100 gals. Each 110.00

DIFFERENTIAL PRESSURE RELIEF VALVE

THRUSH

NO. 4

The Thrush Hot Water Heating System is a closed pressure system automatically controlled. It is necessary that any closed system be equipped with **a thoroughly dependable relief valve.** Thrush Differential Pressure Relief Valves are SAFE beyond question, with a proven record of thousands of installations with no failures. This valve has a large diaphragm, with a large differential which actuates the movement of the free working valve member. It has no tight fitting guides, dirt and sediment cannot accumulate around the valve seat. Corrosion cannot affect its functioning. It is proof against failure (if properly installed) and is unconditionally guaranteed. It is set to open at approximately 28 lbs. pressure which is the suitable maximum pressure for one, two and three story buildings. A special limit adjustment is provided up to 35 lbs. to meet the requirements of higher buildings and yet remain within the safe working pressure of cast iron boilers. **Furnished on all Thrush Systems.**

No. 4—Thrush Differential Relief Valve—Each $16.00

How It Works

Valve is installed vertically, water entering valve at A, filling entire chamber B to level above the valve seat, which keeps it submerged. At top of water line a slight air cushion is present, which maintains a flexible pressure against diaphragm C.

As pressure is built up against diaphragm C, spring G is compressed until valve seat K lifts upward off the seat when water passes through opening D and completely fills water seat E, follows opening F where overflow takes place.

It will be seen that valve seat K is completely submerged at all times, with no possibility of corrosion. The valve member has absolute freedom of action always and cannot stick and fail to open.

COMBINATION GAUGE AND THERMOMETER

Combination Gauge and Thermometer—Indicates pressure, altitude and temperature. Furnished with Thrush Systems. Each $4.00

PIPE FURNACES

SUGGESTIONS FOR INSTALLATION

The first step to be taken when installing a PIPE FURNACE HEATING PLANT is to figure the capacity of the building which is to be heated. When this has been done you can easily determine the size furnace needed by referring to the capacity of the furnace as given in the general specifications. In late years it has become a popular practice to figure the size furnace needed by grate area instead of cubic capacity. This is done by first determining the size warm air supply pipe needed for each room. Then add the areas of all the warm air pipes to be used and this will give the total pipe area to be supplied. Then install the furnace having the proper pipe area as shown in the furnace specifications.

Be sure to use a furnace that will be amply large for the job. Our furnaces are properly rated but it should be borne in mind that the usual basis for this rating is for a temperature of 70 degrees inside when the outside temperature is zero. In most of our territory a temperature a good deal below zero is usual during a good part of the winter so that the minimum capacity of any furnace should usually be the guiding factor when determining the size to use.

PLACING FURNACE

The next step is to place the furnace properly. The location of the furnace should equalize the length of warm air runs as far as possible. You should give preference to pipes supplying the living room, dining room and main halls. A furnace foundation of cement or other incombustible material should be provided. This foundation should extend at least 15 inches to the rear and sides of the furnace casing and not less than 36 inches in front of the furnace casing. The foundation should, of course, be level. The base ring of the furnace should be cemented to the foundation so as to make an air tight joint. In placing the furnace see that the smoke pipe from the furnace to the chimney is as short and as direct as possible. Also see that the chimney is absolutely air tight and that there are no openings into the flue except that for the furnace. It is recommended that the height of chimney above the furnace grate be not less than 26 feet.

REGISTERS AND WARM AIR PIPES

When determining the position of warm air registers and pipes the following points should be kept in mind:

They should not be located in outside walls, but should be in or near inside walls in all cases.

The registers should be placed so that the length of the warm air supply pipes will be as nearly equal as possible.

Each warm air pipe should have an upward pitch of not less than 1-inch per foot and the pitch of all warm air pipes should be alike.

All warm air stacks or risers should be carried up inside partitions. In cases where this is impossible the stack or riser should be so thoroughly protected as to be completely insulated.

Where it is necessary to have an extra long or a winding warm air pipe a separate compartment should be made for it in the bonnet of the furnace so as to insure a sufficient supply of warm air to that pipe.

When warm air pipes are taken out of the top of the hood, the tops of all elbows should be on a level so that an equal current of air can fill all the pipes.

PIPE FURNACES

SUGGESTIONS FOR INSTALLATION

The following table shows the proper size warm air pipe to be used in heating rooms of various dimensions: Table below shows the proper size of furnace pipes (lower number shows size pipe for first floor, upper number size pipe for second floor) to heat rooms of various dimensions, when two sides are exposed, temperature at register 140 degrees, room 70 degrees, outside zero. Rooms 8 to 17 feet in width assumed to be 9 feet high. Rooms 18 to 20 feet in width assumed to be 10 feet high. For other heights, temperatures or exposures make a suitable allowance. When first-floor pipes are longer than 15 feet, use one size larger than that stated for every 15 feet.

	8	9	10	11	12	13	14	15	16	17	18	19	
	8	8											
8	8	8											
	8	8											
9	8	8											
	8	8	8										
10	8	8	8										
	8	8	8	8									
11	8	8	8	9									
	8	8	8	8	8								
12	8	8	9	9	9								
	8	8	8	8	8	8							
13	8	9	9	9	9	10							
	8	8	8	8	8	8	8						
14	9	9	9	9	10	10	10						
	8	8	8	8	8	8	9	9					
15	9	9	9	10	10	10	10	10					
	8	8	8	8	8	9	9	9	9				
16	9	9	10	10	10	10	10	11	11				
		8	8	8	9	9	9	9	9	9			
17		10	10	10	10	10	11	11	11	11			
		8	8	9	9	9	9	9	9	10	10		
18		10	10	10	10	11	11	11	11	12	12		
			9	9	9	9	9	9	10	10	10	10	
19			10	10	11	11	11	11	12	12	12	12	
			9	9	9	9	9	10	10	10	10	11	11
20			10	11	11	11	11	12	12	12	12	13	13
				9	9	9	10	10	10	10	11	11	11
21				11	11	11	12	12	12	12	13	13	13
				9	9	10	10	10	10	10	11	11	11
22				11	11	12	12	12	12	13	13	13	13
					10	10	10	10	10	10	11	11	11
23					12	12	12	12	13	13	13	13	13
					10	10	10	10	10	10	11	11	11
24					12	12	12	13	13	13	13	13	13
						10	10	10	10	10	11	11	12
25						12	13	13	13	13	13	13	14
						10	10	10	10	11	11	12	12
26						13	13	13	13	13	13	14	14
							10	10	11	11	12	12	12
27							13	13	13	13	14	14	14
							10	11	11	11	12	12	12
28							13	13	13	13	14	14	14
								11	11	11	12	12	12
29								13	13	13	14	14	14
								11	11	12	12	12	12
								13	13	14	14	14	14

COLD AIR SUPPLY

Always bear in mind that the cold air supply for the furnace should be ample and should be brought to the furnace. The total area of all cold air returns should be 10% greater than the total area of all warm air outlets. The boot or shoe which connects the cold air return to the furnace casing should be so placed that the open-into the casing does not extend higher than the furnace grate.

The following table will be of assistance in determing the total area of cold air returns as compared to the total area of warm air outlets.

Diameter of Round Pipe	Area of Pipe Sq. In.	Diameter of Round Pipe	Area of Pipe Sq. In.
8	50	17	227
9	64	18	254
10	78	19	283
11	95	20	314
12	113	21	346
13	132	22	380
14	154	23	415
15	176	24	452
16	201		

FURNACES

SPECIFICATIONS OF 4900 SERIES

ASHPIT—A complete unit 14 inches in height, easily accessible in all parts for the easy removal of ashes. Fitted with proper facilities for checking or forcing the fire.

GRATE BARS—Each heater has four "Perfect" triangular revolving grate bars which work in pairs of two. They have 65 percent air ventilating space for proper draft on the fire. Each bar has three solid rib edges so that the bar is constantly supported by one rib along its entire length affording great strength against the effect of hot coals. Each edge is sharp and clinkers are readily crushed without damage to the grate or without dropping the fire, so providing easy means of securing clean, bright fire. Flat surface of each grate bar should always be uppermost in the fire. Correct position can be determined by removing the shaker only when in the upright position.

FIRE POT—Top of the fire pot has a full 1½-inch recess for tightly cemented joint with the body. It has a similar cup joint connection with the ashpit. Each fire pot has from seven to nine ribbed flanges suspended horizontally, thereby increasing the heating surface of this section of the heater 450 per cent. They draw the heat from the fire pot bringing it into contact with the air to be warmed, and greatly increase the life of the fire pot by preventing overheating.

BODY—Top of the body has the same full cup joint for connection with the radiator. Body has from five to seven flanges as described with fire pots above. Each flange except two connects directly over the fire pot flange and forms the lower part of an individual direct air channel. Side flanges on fire pot and body have a sheet iron curtain which covers the extreme ends and makes a complete air channel. Feed door frame has two openings for the use of a domestic water coil. Body is unusually high and has a double feed door opening for the use of a large shovel or the use of large wood chunks.

STEEL RADIATOR (Optional)—The high steel radiator provides more than the usual heating surface for a final impetus to the air. There are from four to six flanges in the central portion of the horseshoe opening which directly meet similar flanges of the body and complete the direct air channel. Horizontal diaphragm forces the heated gases which arise to the rear of the radiator to pass to the front of the radiator and down for travel to the rear again in exit to the chimney. This extremely long fire travel allows the air to absorb all available heat units. Sheet metal parts of radiator have a long life because they are made of heavy gauge iron. The sheet metal is joined to the cast-iron top and bottom plates with a flange joint which is tight in fit and fully closed by fireproof cement. Opening in the front of the radiator which is normally closed by a galvanized cap permits thorough cleaning of the radiator once or twice each season.

CAST-IRON RADIATOR (Optional)—The cast-iron radiator is made in one piece and therefore is absolutely tight. This is a very unusual accomplishment when you consider that 90 per cent of the cast-iron radiators are in two pieces. It will last a lifetime, whereas the difference in expansion and the breaking down of a cemented joint of a two-piece radiator means replacement within a few years.

CASINGS—Casings surround each heater to provide room for circulation of air which is heated by castings and passes through the separate pipes to each room. They are constructed of 26 gauge galvanized iron with the exception of the largest size which requires the strength of 24 gauge iron. The central part of the cases has a lining of corrugated 30 gauge bright tin. This lining makes an insulated surface to reflect heat from the major parts of the heater.

FUEL TEST—During a test which was conducted over a period of 210 days the "Perfect" Positive Heater supplied a specific volume of warm air at a temperature of 140 degrees Fahrenheit with a velocity of 240 feet per minute at a first floor register. In that time it burned 8.37 tons of anthracite. Two other average heaters in the same test burned 10½ tons and 12.58 tons with the same result. This test, which is a matter of record, demonstrates that a 4900 Series "Perfect" Positive Heater will do the same work as an average heater with equal capacity, but with a saving of from two to four tons of coal per season.

OTHER FUELS—"Perfect" Positive Heaters will give satisfactory service when soft coal, oil, gas or wood are used as fuels. The fuel to be used should be stated in the order—as there are special attachments to obtain the best results when fuels other than anthracite are used.

HEATING TUBES—Continuous flanged construction of fire chamber, combustion chamber and radiator with inner shell produces heating tube 42 inches long and provides 43 to 54 square feet radiating surface to each square foot of grate. Construction secures a high efficiency in heating and provides rapid and powerful flow of air through all pipes delivered where needed.

CLEAN OUT DOOR—One above feed door for radiator.

WATER PAN—All "Perfect" Positive Heaters are provided with heavy cast-iron water pan which supplies the proper moisture content to the heated air. The pan should be kept full.

AUTOMATIC HUMIDIFIER—Standard equipment on every heater. The water is fed automatically and the proper degree of humidity is assured at all times.

PANEL FRONT—"Perfect" Positive Heaters are attractive in appearance. The front is a solid panel of correct dimensions and heavy enough to do the work. It is a high grade heater and looks it.

MATERIALS—All materials the best obtainable for the purpose. No expense avoided to make the "Perfect" Positive the best warm air heater obtainable.

CONSTRUCTION—Heavy and substantial throughout. The "Perfect" Positive has hundreds of pounds of heat-radiating iron in excess of the amount used in the usual warm air type. All joints well made and tight fitting.

GAS AND DUST-PROOF—"Perfect" Positive construction uses but three joints; properly cemented the heater is gas and dust-proof.

STANDARD EQUIPMENT—Poker, shaker bar.

WARM AIR HEATERS

"PERFECT" 4900 SERIES

Especially constructed for heavy duty work such as in schools and churches, and particularly designed for fan system of heating.

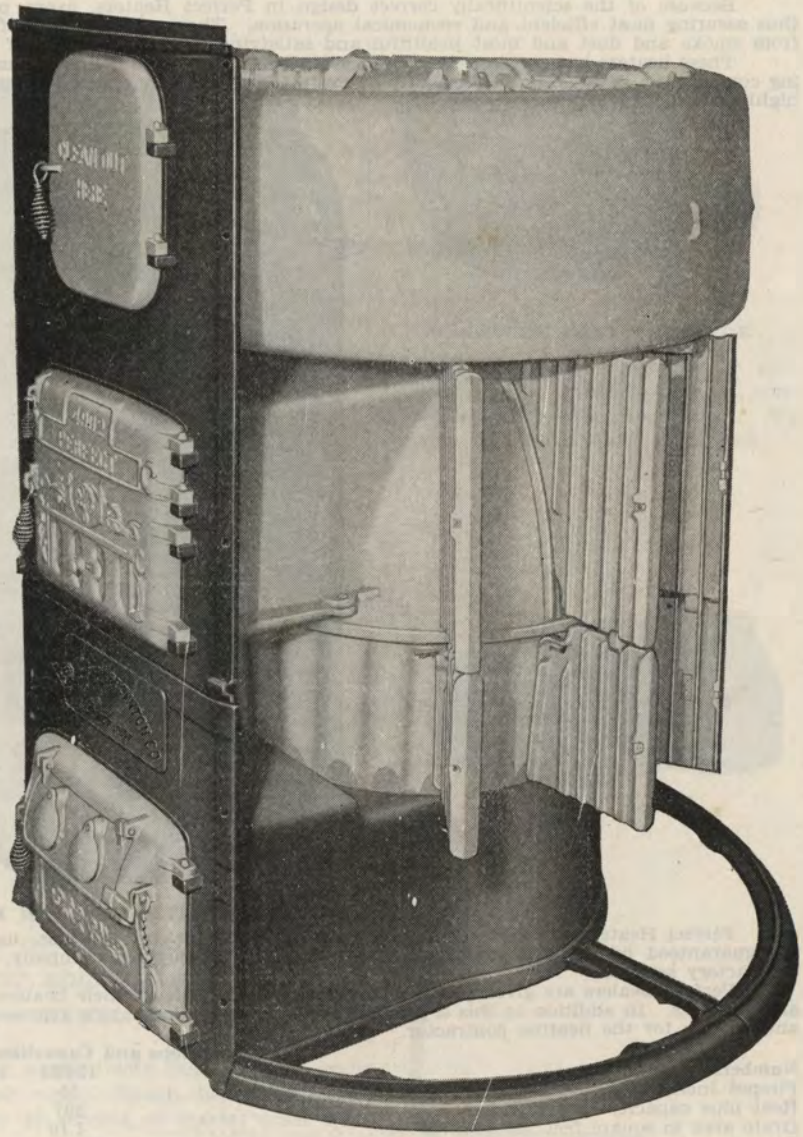
Richardson Perfect Positive Air-Circulating Heater—With One-Piece Cast Iron Radiator. Note the heavy substantial construction and the few joints—there are but three. Most warm air heaters have many.

The Perfect positive is made in sizes ranging from 21 inch firepot to 33 inch firepot allowing for use in large buildings.

CUP JOINT—Has heavy cup joints. There are but three fire joints in the heater. Properly cemented, these are absolutely dust-proof.

HUMIDIFIER—Automatic Humidifier—Regular equipment with the Perfect Positive.

GRATE BAR—Triangular Revolving Grate Bar, with solid rib edges, the bar being constantly supported by one solid edge to prevent warping. Each edge is sharp and easily cuts and frees the fire from clinkers.



No.	Diam. of Firepot in.	Grate Area sq. in.	Diam. Radiator ins.	Diam. Casing in.	Height Panel Front in.	Size Small pipe	Heat Pipe Cap., sq. in.	Shipping Wt., less casing	B.T.U. cap.		Price Less Casing	Add For Casing
4901	21	283.53	35	40	55¼	8	596	1365	187,228	....	$194.00	$23.00
4902	24	346.36	39	47	56⅛	9	740	1625	250,905	....	285.00	25.00
4904	26	415.48	43½	53	57½	9	863	1955	293,425	....	369.00	30.00
4906	29	572.56	48	58	59¾	10	1033	2240	378,258	....	481.00	40.00
4908	33	804.25	54	64	62	10	1340	2865	402,969	....	669.00	50.00

FURNACES

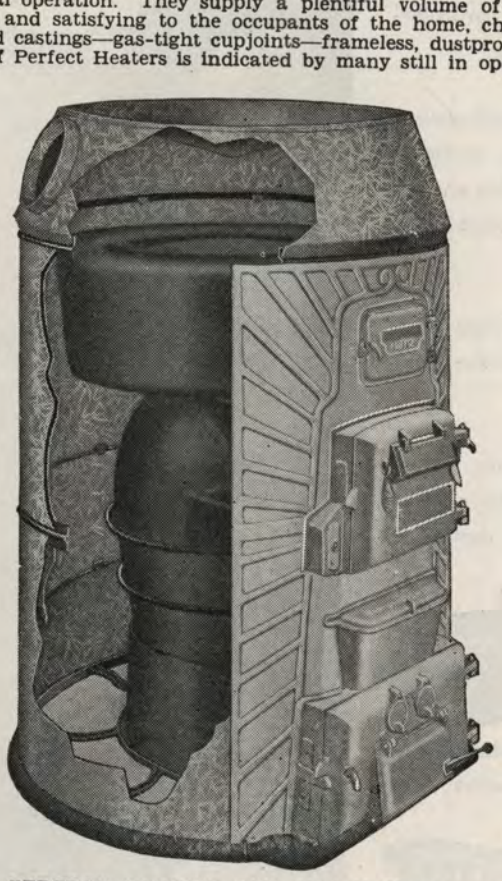
PERFECT

Perfect Heaters represent not only almost a century of practical heater manufacturing experience, but also show in t design the results of a mass of scientific data secured by the engineers of this Company and the leading heating and venti ing authorities of America.

This means, first, that Perfect Heaters are technically correct in design, such as in proportions of combustion space, h ing surface, size of air passages, and in the proportions of the various parts. It means, second, that they are also highly impro in all the details of mechanical construction, and made of the best materials.

Because of the scientifically correct design in Perfect Heaters, every pound of coal renders maximum heating serv thus assuring most efficient and economical operation. They supply a plentiful volume of properly moistened, warm air, from smoke and dust and most healthful and satisfying to the occupants of the home, church, store or other building.

These heaters have accurately ground castings—gas-tight cupjoints—frameless, dustproof doors and patented "slip-on" ing connections. The splendid durability of Perfect Heaters is indicated by many still in operation after thirty or more year highly satisfactory service.



PERFECT HEATER, With Cast Radiator

Perfect Heaters are made of the best materials by efficient methods, under the supervision of heater specialists. T are guaranteed by the manufacturer, the Richardson & Boynton Company, as to ratings and will give thoroughly efficient satisfactory service.

Perfect Dealers are given practical assistance in the sale of their heaters to further the development of substantial, pro able business. In addition to this a personal service by the Company's representatives is provided to assure satisfied custom and success for the heating contractor.

Dimensions and Capacities

Numbers	136B2	140B2	144B2	148B2	152B2	156B2	160B
Firepot inches	18	20	22	24	26	28	30
Heat pipe capacity square inches	307	369	452	546	646	750	895
Grate area in square feet	1.10	1.33	1.72	2.10	2.61	3.05	3.5
Diameter of outer casing, inches	35 7/8	39¼	43⅞	47½	51⅝	55½	61⅜
Height of panel front to bottom of bonnet, inches	48½	49⅜	51⅞	52¼	53¼	56½	64½
Feed Door Opening—							
Width at top, inches	11½	11⅜	12½	13¾	13⅞	13⅞	14⅜
Width at bottom, inches	12½	12⅝	13½	15	14⅞	14⅞	15½
Height, inches	10	9⅝	11	11¼	11¾	11¾	12⅝
Shipping weight with casing, lbs.	852	957	1138	1278	1492	1759	244
Diameter of Radiator, inches	27⅞	27⅞	31¼	35¼	40¼	43¼	49⅝
Smoke outlet, inches	8	8	8	9	9	9	9
Ashpit Opening—							
Width at top, inches	14¼	16¼	17¾	20¼	22½	23¾	27½
Width at Bottom, inches	16⅝	18	19¼	21⅞	24	25¾	28⅞
Height, inches	12	11¾	12	11¾	12⅜	12⅜	14½
Complete With Casing, each	$103.00	$123.00	$149.00	$174.00	$205.00	$237.00	$286.
Castings only, each	90.00	107.00	131.00	153.00	182.00	212.00	248.

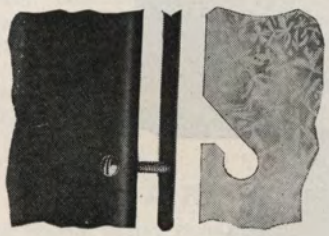
* Ratings established and approved by National Warm Air Heating and Ventilating Association and based on squ inches of pipe area that heater will supply.

FURNACES

PERFECT

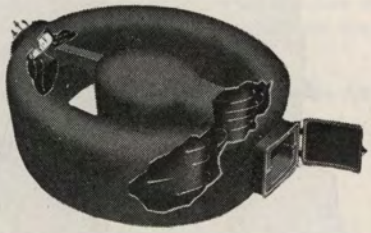
TWO-PIECE FIREPOT

Heavy, durable castings without any weak points; deep wide cup joints and almost vertical sides to the firepot.



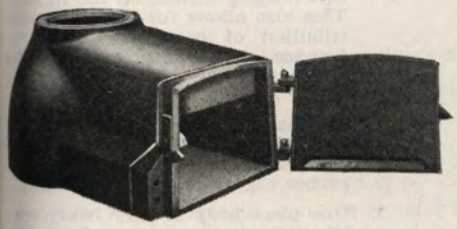
The casing "slips on" into position, no nuts to both; just tighten the bolts and the casing is securely fastened.

PATENTED CASING CONNECTION



ONE-PIECE CAST RADIATOR

Seamless, therefore permanently gas-tight and smoke-proof. Note direct, connected cleanout with hinged door. We recommend this radiator for all fuels.



ONE-PIECE DOME AND FRAMELESS FEED DOOR

Fuel passage extends through heater front, door closing flush against it. Note swinging smoke curtain, upward slope to combustion dome and hot blast opening.

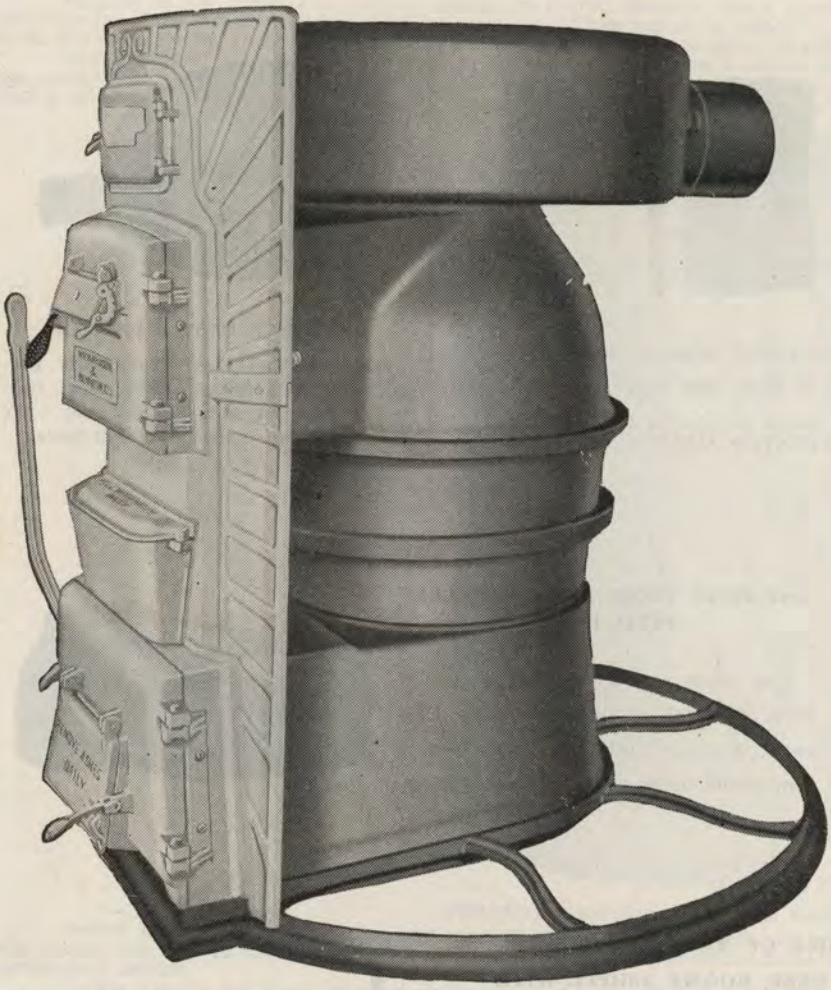
CHOICE OF TWO SPLENDID GRATES

DEEP, ROOMY ASHPIT, WITH FRAMELESS DOOR

Regularly supplied with Duplex Basket grates (See cut at right) though heavy boiler-type grates may be secured on special order without extra cost. (Furnaces equipped with boiler-type grates must be ordered specially from the factory which means a delay of 2 to 3 weeks). Waist high shaker is standard equipment with either style grate. Dished bottom to hold water. Dust-proof, frameless ash-pit door. The bottom, including ash pit is cast in one piece.

FURNACES

PERFECT



The New Perfect Furnace is so designed and constructed as to be SECOND TO NONE on the market. All of the very latest features are incorporated in its design and it is unusually heavy throughout. All castings are made of the FAMOUS RICHARDSON HOMELITE IRON and backed by 96 years of experience and continuous manufacture of heating apparatus.

The outstanding Quality of these heaters (as noted below along with the large range of sizes combined with the excellent Engineering and sales service available make it an enviable line for any dealer to handle who is desirous of making a profit. Note the following features.

1. **Dipped ashpit base** allowing for sprinkling of ashes; eliminates dust in the basement.
2. **Deep ashpit** allows easy removal of ashes.
3. **Duplex Grate** with waist line lever shaker handle and dump center allows firepot surfaces to be clear of ashes, providing more radiation of heat thru firepot which is the best heating surface on the furnace. This also allows for more even distribution of heat all around the furnace. **The** dump center **grates** allow removal of clinkers easily from fire.
4. **Unusually heavy firepots,** with large cup joints, tapered properly assuring long service and allowing for proper expansion and contraction.
5. **One piece body** of very heavy construction designed to conform with the travel of the flames. Opening from body to radiator is half the diameter of the firepot, providing proper area for burning of soft coals. Body is so designed that furnace can be converted into a smokeless furnace by simply installing a cast flue over the regular furnace.
6. **Radiator constructed of one piece** with clean out extension through panel front and cast smoke collar extension through casing. Radiator can be turned around to suit smoke pipe connection to chimney. Radiator design is such that air rubs against the heated casting surfaces providing heat by friction as well as by convection. Radiators are regularly furnished with two way fire travel, but can also be provided with one way fire travel for oil burning or hard coal on special request (shipped from factory.)
7. **Ashpit and body pouches both extend through the panel front** and have the doors ground and fitted, eliminates any possibility of smoke or ashes leaking into air chamber.
8. **Feed doors all have a special heavy cast lining** with air snout extending into feed pouch providing heated oxygen which ignites the gases as they come from the coal within the combustion chamber and cause them to burn in the furnace in place of going out of the chimney in the form of smoke.
9. **Casings are all twice the diameter of the firepots.**
10. **The Panel Fronts are purposely constructed narrow** in order to eliminate radiation of heat into basement, and entire front is painted with a heat resisting aluminum paint.

SYPHON SYSTEMS

The Syphon System is one of the oldest principles of Warm Air Heating. The Warm air is delivered directly above the furnace through a single warm-air register while the cold air can be piped from the living rooms directly to the base of the furnace. This system can be furnished in all size furnaces. Equipment includes double lined casings, warm-air pipe and warm-air register. Cold-air fittings are not included with this equipment but can be furnished at market price.

NOTE—In a great many cases, it is possible to seal the joist spaces for cold air, saving the cost of pipe.

WARM AIR SUPPLY

Prices of Warm Air Equipment including special casing hood, enough warm air extension pipe to handle an 8 foot basement (minimum height, 6 feet 6 inches), register box and black Japan cast iron register—Cost of cold-air material must be adde (see below).

Size Furnace, inches	18	20	22	24	26	28	30
Register size, inches	18x24	20x24	24x24	24x28	28x30	30x30	30x36
Warm air pipe size, inches	18	20	22	24	26	28	30
Add to price of pipe furnace (complete with casing)	$25.00	$27.00	$32.00	$40.00	$50.00	$60.00	$70.00

COLD AIR SUPPLY

It is impossible to give an arbitrary figure covering the Cold Air Supply material necessary in every case as this varies according to the conditions governing each installation. The following items are necessary on every job, however:

18-inch Furnace

12 ft. 14-inch 26 gauge Galv'd Pipe @ .....$0.63 ft.
2—14x20 Wood Faces @ .....$1.94 ea.
2—14-in. Cold Air Head @..... 1.66 ea.
2—14-in. Cut 108 Cold Air Shoes @ ..... 4.85 ea.

20-inch Furnace

12 ft. 16-in. 26 ga. Galv'd. Pipe @ .....$0.72 ft.
2—14x30 Wood Faces @ .....$2.92 ea.
2—16-in. Cold Air Heads @ .... 1.80 ea.
2—16-in. Cut 108 Cold Air Shoes @ ..... 5.30 ea.

22-inch Furnace

12 ft. 18-in. 26 ga. Galv'd Pipe @ .....$0.90 ft.
2—16x30 Wood Faces @ .....$3.34 ea.
2—18-in. Cold Air Heads @ .... 1.96 ea.
2—18-in. Cut 108 Cold Air Shoes @ ..... 6.15 ea.

24-inch Furnace

12 ft. 20-in. 26 ga. Galv'd Pipe @.....$1.08 ft.
2—18x30 Wood Faces .....@ $3.75 ea.
2—20-inch Cold Air Heads .....@ 2.26 ea.
2—20-inch Cut 108 Cold Air Shoes .....@ 7.00 ea.

12 ft. 22-inch 26 gauge Galv'd Pipe .....@ $1.35 ft.
2—24x30 Wood Faces .....@ $5.00 ea.
2—22-inch Cold Air Heads .....@ 2.56 ea.
2—22-inch Cut 108 Cold Air Shoes .....@ 8.00 ea.

26-inch Furnace

12 ft. 20-inch 26 gauge galvanized pipe @ .....$1.10 ft.
2—16x30 BJ Steel faces @ ... 10.50 ea.
2—20-in. Cold Air Heads @ ... 2.35 ea.
2—20-in. Cut 108 C. A. Shoes @ 7.00 ea.

28-inch Furnace

12 ft. 22-inch 26 ga. Galvanized pipe @ .....$1.35 ft.
2—18x30 BJ Steel Faces @... 10.75 ea.
2—22-in. Cold Air Heads @ ... 2.56 ea.
2—20-in. Cut 108 C. A. Shoes @ 8.00 ea.

30-inch Furnace

12 ft. 24 inch 26 ga. Galvanized Pipe @ .....$1.60 ft.
2—18x36 BJ Steel Faces @... 14.25 ea.
2—24-in. Cold Air Heads @ ... 2.86 ea.
2—24-in. Cut 108 C. A. Shoes @ 9.00 ea.

(All above less usual discounts)

In addition to the above materials enough galvanized pipe and the necessary elbows and angles are required to connect the Cold Air Registers with the Cold Air Pipe. In a great many cases, it is possible to seal the joist spaces with galvanized iron, saving the cost of pipe. When figuring round pipe and elbows the following sizes should be used for each of the various furnaces.

18-inch Furnace—14-inch Pipe.
20-inch Furnace—16-inch Pipe.
22-inch Furnace—18-inch Pipe.
24-inch Furnace—20-inch Pipe.
26-inch Furnace—20-inch Pipe.
28-inch Furnace—22-inch Pipe.
30-inch Furnace—24-inch Pipe.

DOUBLE SIDE-WALL COMBINATIONS

When conditions make it necessary to place the furnace directly underneath a partition, the double side-wall combination can be used to good advantage. With this combination register, the warm air enters both rooms in equal volume through the wall registers. Volume of heat on either side of house may be controlled by damper. The cold air registers are located on the floor below th warm-air registers and operate in the same manner as when the ordinary register is used. This special combination register can be used with any size furnace and has proven a wonderful success wherever used.

Oxidized Copper Registers furnished as regular equipment.

SIZE OF PARTS OF DOUBLE SIDE WALL COMBINATION

18-inch Furnaces

Square Ext. 27x34 inches; Round Ext. 17½ inches; Cold air plates 9x27 inches each; Hot air Register opening 11½x25 inches on each side.

20-inch Furnaces

Square Ext. 27x34 inches; Round Ext. 20 inches; Cold air plates same as 840 and 1718; Hot air register same as 8-40 and 1718.

22-inch Furnaces

Square Ext. 27x34 inches; Round Ext. 22 inches; Cold air plates same as 18 or 20 inch furnaces.

24-inch Furnaces

Square Ext. 34½x40½ inches; Round Ext. 23½ inch; Cold air plates 14x34 inches each; Hot air register opening 11½x31 inches on each side.

For Double Side Wall Equipment, add to regular price of Pipeless Furnace the following.

For 18, 20, 22 and 24-inch sizes, add $50.00
For 28-inch size, add 60.00

HEAT DISTRIBUTORS

Single Heat Distributor

Double Heat Distributor with Dividing Partition

Since the pipeless furnace was invented, the conducting of warm air to isolated rooms from the furnace proper has been a great problem.

For ten years Homer engineers have been working on this problem. The very latest achievement in an apparatus which successfully conducts a portion of the heat from the pipeless furnace to the bath room, den or other unusually isolated room, or room where an unusual amount of heat is desired, as required.

The Homer Heat Robber rests in a fixed position on the top section or radiator of the furnace. Unlike other apparatus of this general character, a damper is arranged in the Homer Heat Robber so that in case too much heat is delivered through the pipe the central damper may be turned to allow any excess heat to pass directly up through the main register.

	Single	Double
Heat Distributor for 18 inch—Each	$ 8.00	$10.00
Heat Distributor for 20 inch—Each	9.00	11.00
Heat Distributor for 22 inch—Each	10.00	12.00
Heat Distributor for 24 inch—Each	12.00	14.00
Heat Distributor for 28 inch—(All cast iron)—Each	22.00	26.00

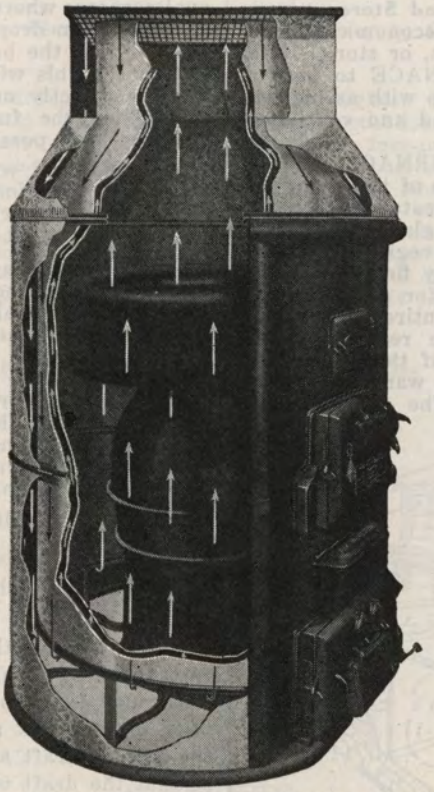
PIPELESS HEATER

THE NEW IDEA

New Idea Pipeless Heaters, originally introduced in 1916, are giving splendid satisfaction in thousands of homes, stores, churches and other buildings.

Their design has been improved from time to time until their present construction with triple casings and all the distinctive features of Perfect Pipe Furnaces is highly scientific in design and at the same time extremely simple and practical in operation.

New Idea Pipeless Heaters are far superior to so-called cabinet heaters and other "stoves" which take up valuable space in the living rooms and distribute dirt, dust and ashes thru the house. The proper location for a modern heating plant is in the cellar or basement. New Idea Pipeless Heaters are so located and provide an up-to-date central heating plant, efficient and economical, simple in installation, easy in operation and priced within the reach of all.



Cutaway View of Pipless Heater—Showing Circulation of Air.

CAPACITIES AND DIMENSIONS

	Diam. of Fire-pot Ins.	Diam. of Cas-ings Ins.	Height of Casings Ins.	Feed Door Openings Ins.	Size of Face Plate Ins.	Size of Smoke Collar Ins.	Estimated Capacity Cu. Ft.	Ship. ping Wgts. Lbs.	Price Each
No. 136B1	18	38	62½ to 96	10 x12½	24x24	8	5 to 9000	875	$136.00
No. 140B1	20	42	64 to 96	10 x13	28x28	8	9 to 12000	1025	157.00
No. 144B1	22	47	65¼ to 96	11 x13½	30x30	8	12 to 18000	1225	198.50
No. 148B1	24	52	69 to 96	11½x14½	34x34	9	18 to 25000	1400	228.00
No. 152B1	26	56	70½ to 96	12½x14½	36x36	9	25 to 35000	1850	260.00
No. 156B1	28	62	73⅝ to 96	12½x14½	40x40	9	35 to 45000	2100	288.00

PIPELESS FURNACES

OPERATION

Quickly and Easily Installed.

A PIPELESS FURNACE has no network of pipes, no bulky cold air returns; your walls are not torn up for stack, nor your floors mutilated for numerous registers. No complicated masonary or carpenter work is necessary A Pipeless Furnace can be installed complete in little over a half a day.

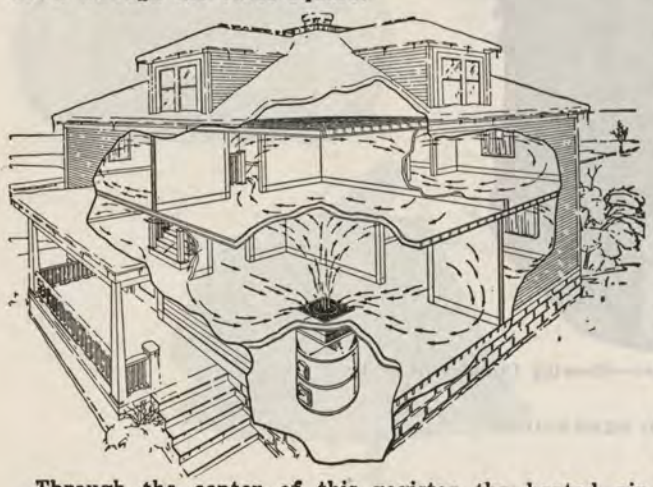
No cellar is too small. The triple casing perfectly insulates the heat so that the basement is always cool, and vegetables and fruit may be safely stored close to the furnace. As a matter of fact, the outer galvanized casing is nearly always cold to the touch, even with the hottest fire in the furnace, proving the perfect insulation and conservation of heat.

Suitable for Homes, Churches and Stores.

A PIPELESS FURNACE is the most economical method of heating the average house, church, or store. It is economy to install a PIPELESS FURNACE to heat a four room cottage, and there are houses with as high as eighteen rooms beings effectively heated and ventilated with a PIPELESS FURNACE.

For heating stores the PIPELESS FURNACE is ideal. With the register placed near the middle of the room the entire store, both front and back, is heated effectively. The temperature near the front plate glass windows is practically uniform with that near the register. Customers entering the store on a bitter day find immediate comfort in standing over the register for a moment.

A PIPELESS FURNACE heats the entire house, both upstairs and down, through one large register. This register is placed in the floor of one of the downstairs rooms, directly over the furnace. The warm air comes up through the inner center circle. The cold air goes down through the outer square.



Through the center of this register the heated air rises from the furnace and quickly flows to all parts of the house—nature's own method of distributing heat. After the air has given up its heat, it falls to the floor and travels back to the furnace ,through the outer square part of the register. Thus a PIPELESS FURNACE, in addition to providing ample heat, also provides circulation, changing the air in each room about every six minutes and purifying it. A free, unrestricted circulation, just as the sun heats the earth,

The temperatures in the various rooms are practically uniform, the upstairs sleeping rooms not being quite as warm as the downstairs, which is conducive to good health.

INSTALLATION

When installing a PIPELESS FURNACE the first things to be determined is the position of the register. This should be placed with the following points in mind:

First: It should be as near the center of the building as possible.

Second: It should be so placed that the smoke pipe from the furnace to the chimney will be as short and direct as possible.

After the position of the register has been determined cut a hole in the floor about ⅛-inch of an inch larger than the register flange. Then place a tack at each corner of the register and draw a string from the diagonal corners; where these cords intersect will be the true center. Then drop a plumb bob from the center of the register into the basement to a point a few inches from the floor. This will enable you to place and set up the furnace directly under the register so that the connections from the furnace to the register may be made with the least possible trouble.

Then proceed with setting up the furnace in accordance with the instructions furnished with it. These directions will vary slightly depending on whether the furnace is of Cast or Steel construction.

After the furnace body has been set up and before the casing has been put in position it is a very good plan to plug up all openings in the radiator and build a light fire of paper. When the doors are shut you can watch for spurts of smoke which will indicate that cementing of the joints has not been properly done. This will often prevent the necessity of tearing down the casing after the furnace has been installed because of faulty cementing of the joints and is specially to be recommended when the installation is done by someone who is not a thoroughly seasoned furnace man.

After the installation has been completed make sure that there are no leaks at the base of the furnace by cementing around the base casting on the floor so that no cold air will be taken into the furnace from the basement.

When placing the regulator plate it should first be fastened to the wall and then holes bored directly below it through the floor. Cut the chains and draw through floor to basement and fasten ends of the two chains to the ash pit draft and the check draft, arranging pulleys so that the draft will work easily from above.

After the entire installation has been made it is well to start a light fire which should burn for a short while in order to burn the newness off the castings.

The following points should be kept in mind in handling the furnace after it has been installed. Never build an intensely hot fire immediately after the furnace has been installed. Especially when the castings have been very cold. Extremely hot fire causes the cement to dry too quickly and results in a leaky job. When building a fire it is advisable to open the draft and the ash door and close the check draft on the smoke pipe. The best results are obtained when the grate is covered with ashes to a depth of two or three inches. The operation of a furnace is very simple; when higher temperature is wanted simply open the ash door draft and close the check draft.

ARMSTRONG FURNACES

PIPE STYLE

The Armstrong is a Quality Furnace—Correctly Designed and Honestly Built.

The Armstrong Guaranteed Furnace is a quality job—and it looks the part. Simple in design—clean-cut, generously proportioned, ruggedly well built—the general appearance of the Armstrong instantly appeals to the heating engineer. And a careful check-up of every part from shaker to smoke outlet drives home the impression that here is a heating plant of honest construction throughout, a high-grade furnace in every sense of the word, built right for true heating efficiency and years of long hard service.

A Quick Action Heating Plant. Easy to Install—Easy to Operate—Very Economical.

We sincerely believe that Armstrong represents the very highest development in the warm-air heating industry as some of its features are being extensively copied by old established manufacturers. By that we do not mean that it offers any startling innovations. On the contrary, it is a furnace of conservative design, built strictly in accordance with the most modern ideas of scientifically correct heating and ventilation. It has no "trick" features—no half-tested ideas worked out as possible "talking points." Above all things the **Armstrong is a practial furnace**—easy to install—easy to operate—extremely economical of fuel—and absolutely dependable for thoroughly satisfactory heating results under any and all conditions. When the call comes for heat in a hurry in the chilly days of Spring or Fall the Armstrong proves its outstanding superiority as a **quick-action heating plant**. Likewise, during solid weeks of bitter cold winter weather, the Armstrong can be depended upon to do the job and deliver an ample volume of pure, fresh, perfectly humidified warm air 24 hours a day if need be, without undue forcing and at bedrock cost for fuel.

PIPE FURNACE SPECIFICATIONS

Furnace Nos.	530	534
Diameter drum, inches	30	34
Diameter of grate, inches	27	31
Diameter of smoke pipe, inches	9	9
Height of furnace, inches	56	56
Diameter of casing, inches	55	61
Approx. shipping weight, furnace only, lbs.	1306	1410
Approx. shipping weight complete with casings, lbs.	1477	1593
Capacity in square inches of pipe area	947	1168
Complete with Casing, etch	$295.50	$353.00
Furnace less Casing, each	256.80	307.00

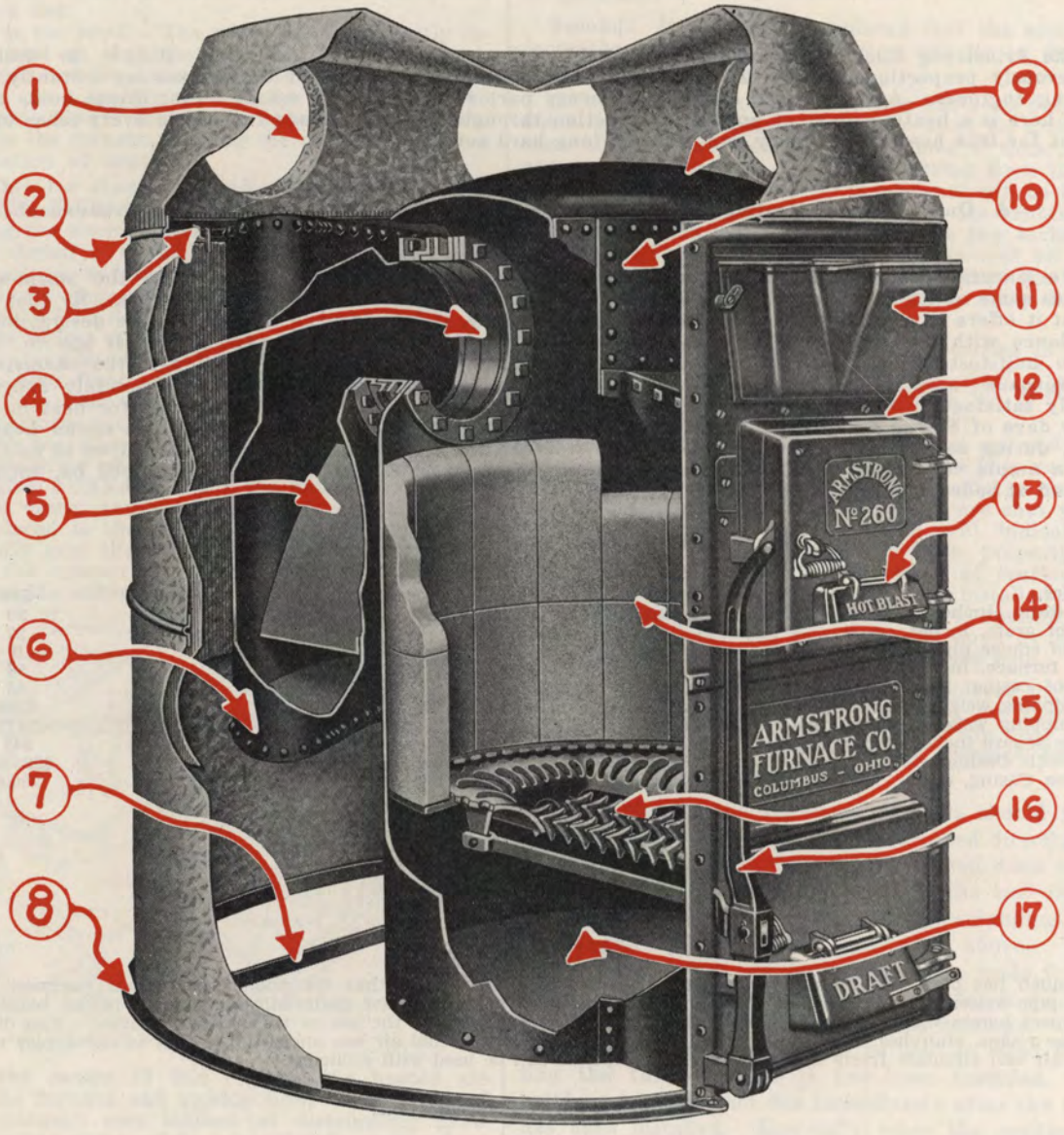
PIPELESS

So much has been said for and against the so-called pipeless furnace that the public has become confused. While an individual pipe system is necessary in some installations, types of homes have materially changed in recent years and many small, compact homes with large unobstructed openings are well adapted to the use of the pipeless furnace. Also divided store rooms, lodge rooms, churches, etc.—in short, in any building where the cold air has unobstructed flow to the duplex register and the warm air can circulate freely and naturally, the pipeless can be used with economy.

Pipeless Furnace Specifications

Furnace No.	126	134
Diameter drum, inches	26	34
Diameter of grate, inches	22	30
Diameter of smoke pipe, inches	9	9
Diameter inner casing, inches	46	54
Diameter outer casing, inches	54	62
Size of duplex register, inches	36x36	45x45
Heating capacity in cubic feet	9000 to 13000	35000 to 45000
Shipping weight, complete	1509	2234
Complete with casing	$321.20	$477.00

ARMSTRONG FURNACES



ARMSTRONG FURNACES

PIPE STYLE

1-2.—Heavy Double Casing—easily set up by **one man.** Of extra large diameter that protects the heater and provides for a great volume of comfortable, balmy warm air. Has metal insulated lining with 1" air space and will not overheat basement.

3.—Radiator extra large—of Armco Iron—providing long fire travel in contact with **very best radiating surfaces. Absolutely gas and smoke tight.**

4.—Positive Damper Control—makes it easy to start **quick fire** with **direct** draft—easily reversed to **indirect** draft. Control rod comes through cast front—**cannot be overlooked by operator.**

5.—Cast Baffle Plates in radiator arranged to provide longest and **most natural** fire travel thru **extra large one-piece smoke collar** that is flanged on inside as well as outside of shell and has a gas-tight gasket sleeve connection with radiator. This extra fire travel spells heat and economy.

6.—Cleanout is **large—making it easy to reach all inner surfaces**—and has **self-closing hinged cover.** Made in one piece.

7.—Radiator is supported by adjustable wrought bracket that keeps it **always straight** and **relieves weight on collar connection.**

8.—Heavy **non-breakable One-Piece Base Ring**—easy to level. Has **strong cross brace** that **bolts to shell**—and **deep** flange to support casing. It is shipped **well crated.**

9.—Heavy Pressed Head—correctly dished to deflect flames.

10.—"Copper-Bearing Fire-box Plate" shell 3/16" thick—**sealed tight with 3/8" cold-driven** rivets on 1¼" centers and **seams thoroly welded.** Built proper height allow **good elevation of warm air pipes.**

11.—Large Cast Water Pan—**properly located—easy to fill—hard to overlook.** Held securely in place by two substantial lugs. (Provided with automatic float when desired—at small extra cost.)

12.—Substantial Cast Front—**easy to keep clean**—attractive in design.

13.—Large Feed Door—13"x13"—provided with good smoke curtain and hot blast smoke carburetor working in unison with draft door. This is a **real selling feature furnished as regular equipment** and greatly reduces coal bills.

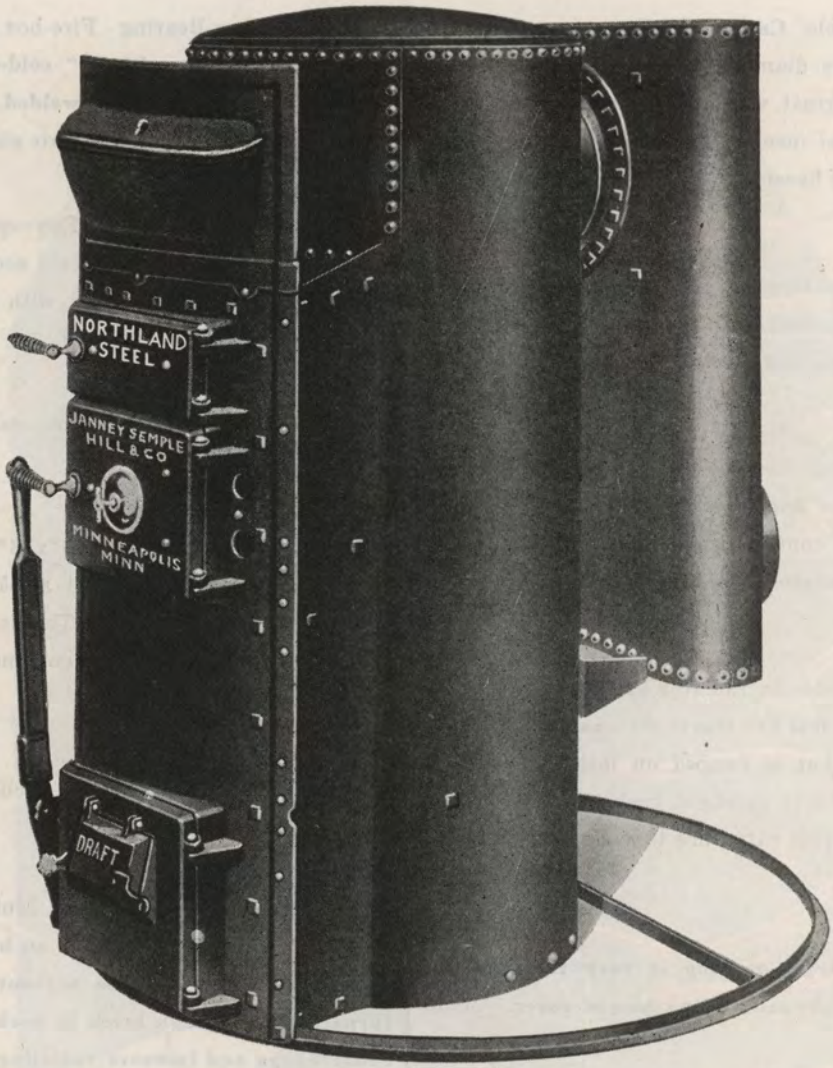
14.—One Piece Cast Feed Pouch—and heavy cleats to clamp upper row of brick.

15.—Highest-test Fire Brick Lining. Will **radiate** and **hold** heat **better** and **longer** than **heavy castings. Easily replaced at small expense without disturbing casing or furnace. Extra high brick in back protect drum, smoke collar flange and increase radiating capacity.**

16.—Heavy Grate Bars—with ample air spaces for various grades of coal. Easy to **seat** or **remove;** have very few parts; are operated by strong **upright lever** that easily **shakes** or **dumps.** No **ashes, dirt** or **smoke** in the face of the operator or in living rooms. When lever is in natural position the grate bars are level.

17.—Large Ash Pit—**deep clearance—smooth bottom**—no **step-ups,** or **rivet heads** to interfere with removal of ashes. Has **large tight-fitting door** with **non-burn handle.**

NORTHLAND
STEEL FURNACES



The Northland Boiler Plate Heavy Duty Steel Furnace (Regularly built 57 inches high, but can be made any height from 4 to 12 feet.) Can be furnished with Pipeless Casings when desired write for prices on pipeless outfits complete. See detailed specifications below:

SPECIFICATIONS OF PIPE FURNACES AND CASINGS

Number of heater	24-46	27-50	30-52	33-55	36-59	36-63	36-78	42-78
Maximum heating capacity in leaded pipe area	5.30	660	734	927	1057	1081	1102	1651
Diameter of combustion chamber in inches	24½	27	29	33	36½	36½	36½	42
Standard height of furnace in inches	57	57	57	57	57	63	78	78
Diameter of grate in inches	19¾	23	24¾	29	30½	30½	30½	38
Area of grate in square inches	306	415	481	660	731	731	731	1134
Size of smoke pipe in inches	9	9	9	10	10	10	12	12
Height of indirect radiator in inches	36	36	36	36	36	42	2-42	2-42
Diameter of casing in inches	46	50	52	55	59	59	59	68
Height of casing complete in inches	70	..	70	..	70	76	88	88
Width of upper casing in inches	24	..	24	..	24	30	36	36
Width of lower casing in inches	30	..	30	..	30	32	36	36
Weight complete, pounds.	1085	1140	1195	1300	1515	.....	.....	.....
Length of casing sheets in inches	126½	138⅜	145¼	154¼	167¼	167¼	167¼	195¼
				Prices Quoted on Application				
Each, (No casing)	$143.00	$162.00	$186.00	.....	.....	.....	.....	.....
Each, (With casing)	163.00	184.00	210.00	.....	.....	.....	.....	.....

NORTHLAND
STEEL FURNACES

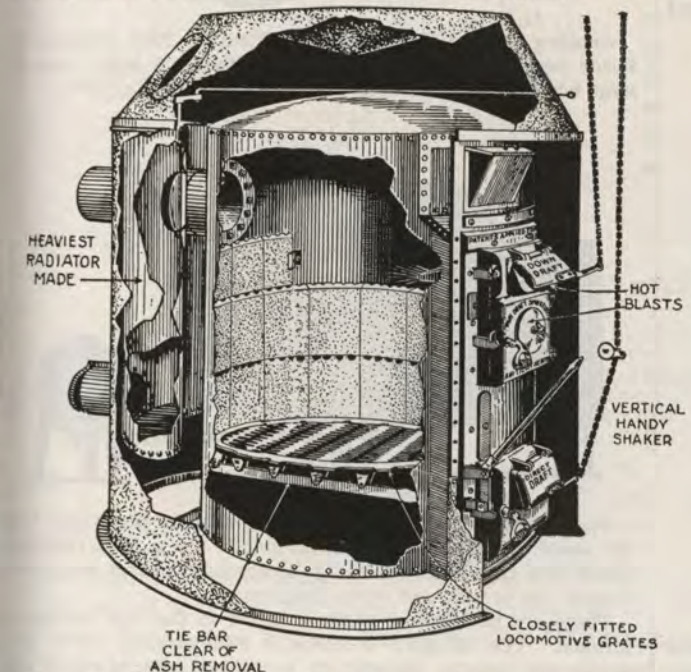
THE NORTHLAND HEAVY-DUTY BOILERPLATE FURNACE WITH A DIVISION DOWN DRAFT CRESCENT RADIATOR FOR OIL, GAS, LIGNITE, HARD AND SOFT COAL OR WOOD

Nursery men of the Northwest would never think of buying nursery stock grown in the South or East as it would never stand the rigors of this Northern Country. It is just as risky to buy furnaces made to be used in these milder climates. Therefore, noting the trend toward steel furnaces, we offer a furnace of Heavy Boilerplate Construction made much heavier in both the steel and cast parts and manufactured in a Minneapolis boiler factory with the same machinery that is used for making High Pressure, Generation Lasting, Locomotive Type Boilers. These furnaces are built from Copper-Bearing Steel Boilerplate and their average life is over twenty-five years, with nominal repairs.

The riveted seams are twice as strong as the rest of the boilerplate and will never leak gas, soot or smoke. This is not true of either electric or acetylene welded seams where part of the binder must come out of the metal itself and consequently varies depending on the skill of the operator. The intense heat of welding crystalizes the steel and makes it more likely to rust and crack under expansion strains. This is why the A. S. M. E. and Hartford Insurance Company will not pass welded boilers for higher than fifteen pounds pressure while our high pressure power boilers, with our more costly riveting method, are passed for 150 pounds pressure. Do not be deceived by claims that the cheaper welding process is superior to the tried and proven riveted seam construction in which rivets are driven under a fixed pressure of fifty tons on each closely spaced rivet, laps having a 2 inch flange making them double the thickness of surrounding steel plate.

Please remember that these Boilerplate Steel Furnaces are built much heavier than many others sold in the Northwest so that they will give service for more than a generation, and will easily stand the extra strains of Church and School Service. Every size above and including the 33 inch comply IN EVERY PARTICULAR WITH THE REQUIREMENTS OF THE DEPARTMENT OF EDUCATION OF THE STATE OF MINNESOTA FOR USE IN PUBLIC SCHOOLS. Let us know the number of the plan or the amount of Grate Area and Heating Surface required and we will tell you what size to figure. Size 33 inch will meet all the State Plans calling for four square feet of Grate Area and one hundred twenty square feet of Heating Surface or less, and size 36 inch—(with 66-inch body) will meet those calling for 5.35 Square feet of Grate Area and 140 sq. ft. of Heating Surface or less. We can build these furnaces any height or add additional radiators to increase the surface when required. Do not hesitate to assure your School Board that these furnaces will more than pass all State Requirements. They are already in many Minnesota School Houses, and official reports on their fuel economy and heating power read like paid testimonials.

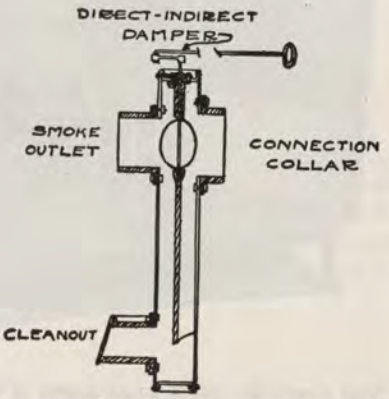
SPECIAL FEATURES—Extra large double Feed Doors 12x15 inches. Hot blast Linings in both doors burn the smoke. Large Vertical Shaker Handle requires no stooping. Coil hole openings for coil for heating domestic water. Very large water pan for large moisture evaporation for proper humidity. Large volume air casing produces moist warm air instead of hot dry scorched air.



This Cut-away view shows the large combustion chamber, deep firepot, large casing air area, clinker crushing grates with vertical shaker handle, large doors, humidifying water pan, hot blasts, etc.

This 20 inch deep straight sided firepot is lined with the same quality of firebrick that is used in foundry cupolas where cast iron is melted daily. Grates are the durable locomotive rocker type operated by a handy vertical shaker handle.

Here is the rear 10 gauge copper bearing steel radiator for higher efficiency and smokeless combustion. It is 36 inches long, 40 inches wide and 9 inches deep and is regular equipment.



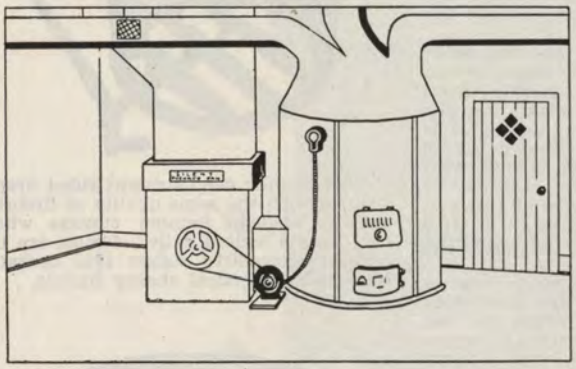
While we do not approve of damper style radiators except when burning hard coal or coke, we can supply them as shown here at a slight extra charge.

SILENT FURNACE FAN

A POSITIVE PRESSURE BLOWER

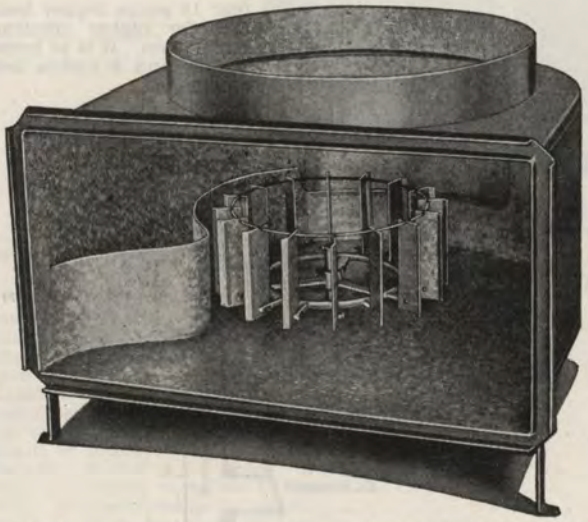
For better results, equip your furnace with the SILENT FURNACE FAN—Warms in Winter—Cools in Summer.

The SILENT FURNACE FAN FORCES the warm air into every nook and corner of your home and insures an even distribution of heat in every room.



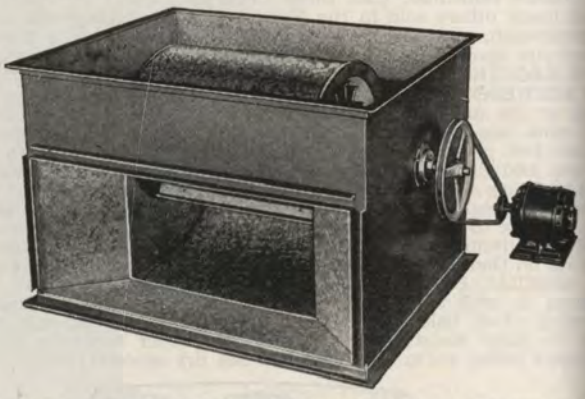
Above illustration shows a typical installation in a home. Notice how the air ducts can now be placed close to and horizontal with the ceiling. This increases the head room of your basement. With no unsightly ducts jutting out at all angles—you can convert your basement into a clean, neat room for many uses.

Gravity heat circulation is too slow and wasteful. The warm air from the furnace may be speeded up and evenly distributed to every corner of the building. This not only increases living and working conditions but—also cuts down the fuel bill. The SILENT FURNACE FAN is endorsed by hundreds of satisfied users. It is "easy" on your furnace, requires little attention and is always extremely quiet.

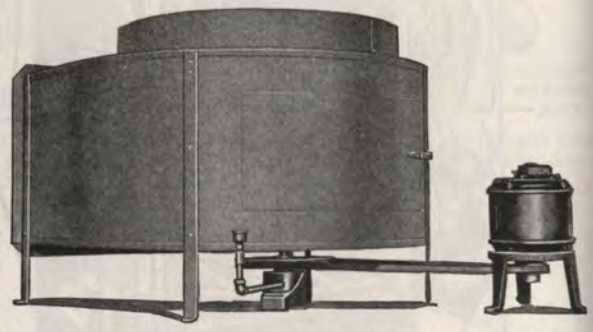


This shows the inside construction of the SILENT FURNACE FAN, Cold Air Shoe Type. It shows the Multiblade Booster that forces the warm air up through the ducts to every corner of the house.

The SILENT FURNACE FAN is operated by manual control or by automatic control. When fan is not in operation furnace continues normal operation in the movement of air by gravity. It can be installed on any type of heating plant and is designed not only for homes, but stores, schools, and all kinds of public buildings. Its operation is simple. It draws the cold air out of your home to the furnace—forces this same cold air into the furnace where it is heated—then the SILENT FURNACE FAN shoots this heated air through the ducts into every nook and corner of every room. You no longer depend on the heat rising from your furnace by gravity, which is not only a slow process, but one by which the heat does not reach every room evenly.



Another view of the SILENT FURNACE FAN showing the inside construction. Notice how sturdily it is built, also the large booster that assures positive air circulation.



The SILENT FURNACE FAN is a decided departure from the usual type of furnace fan in that it has a MULTIBLADE BOOSTER (not a propeller). It is absolutely silent and vibrationless due to patented oilless bearings.

There are no working parts attached to the fan housing or furnace. The SILENT FURNACE FAN assures more than double the gravity capacity of a furnace and MAKES ALL DUCTS HEAT. This means a saving in your fuel bills and also a substantial increase in heating comfort.

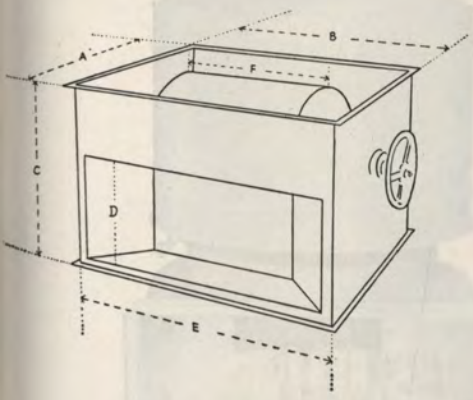
SILENT FURNACE FAN

CAPACITIES AND DIMENSIONS

FAN Type	FAN No.	MOTOR H.P.	MOTOR R.P.M.	Capacity C.F.M. ¼ in S.P.	R.P.M. Fan	Free Area Thru Fan Sq. In.	Approx. Size Furnace Used based Standard Code Rating	Ap. Size Bldg. of Av. Con. in Cu. Con. Based on 12 Min. Air Change	List price each FAN	List price each FILTER	List price each AIR WASHER
A	01	⅛	1750	1000	400	220	400	12,000	$120.00	$30.00	$90.00
A	11	⅛	1750	1200	320	400	460	14,400	136.00	40.00	
A	21	¼	1750	1350	390	400	540	16,200	150.00	40.00	100.00
A	31	¼	1750	1750	440	400	700	21,000	160.00	40.00	
B	11	⅓	1750	2200	320	620	880	26,400	200.00	50.00	
B	21	⅓	1750	2700	390	620	1,080	32,400	210.00	50.00	120.00
B	31	½	1750	3000	440	620	1,200	36,000	260.00	50.00	
C	11	½	1750	4000	390	800	1,600	48,000	336.00	60.00	
C	21	¾	1750	5000	440	800	2,000	60,000	430.00	60.00	140.00
C	31	1	1750	6000	540	800	2,400	72,000	490.00	60.00	

Three-speed Pulleys can be furnished for above Fans at additional price.

Belt Guards will be furnished for the above Fans at following net price. Type A, $6.00; Type B, $7.00; Type C, $8.00.



Fan	A	B	C	D	E	Dia. Wheel	F
A-01	30	30	26	15	28	12	14
A-11	30	38	26	15	36	16	22
A-21	30	38	26	15	36	16	22
A-31	30	38	26	15	36	16	22
B-11	36	42	30½	15	40	20	22
B-21	36	42	30½	15	40	20	22
B-31	36	42	30½	15	40	20	22
C-11	40	46	35	18	44	24	22
C-21	40	46	35	18	44	24	22
C-31	40	46	35	18	44	24	22

"SILENT FURNACE FAN" COLD AIR SHOE DESIGN

No. Fan	Motor H.P.	Motor R.P.M.	Capacity C.F.M. ⅛ In S.P.	Free Sq. Inches Thru Fan for Grav. Operation	Size Intake Collar on Fan	Size Outlet Connection to Furnace Casing	List price Fan	List price Filter	List price Air Washer
24	⅛	1750	1000	454	24	15x29½	$106.00	$30.00	$ 80.00
26	¼	1750	1200	530	26	15x35½	118.00	40.00	90.00
28	¼	1750	1400	604	28	17x35½	122.00	40.00	100.00
30	¼	1750	1600	704	30	20x35½	126.00	40.00	110.00

Belt Guards will be furnished for above Fans at a net price of $6.00.

Minneapolis Honeywell Furnacestat can be furnished for net price of $23.00.

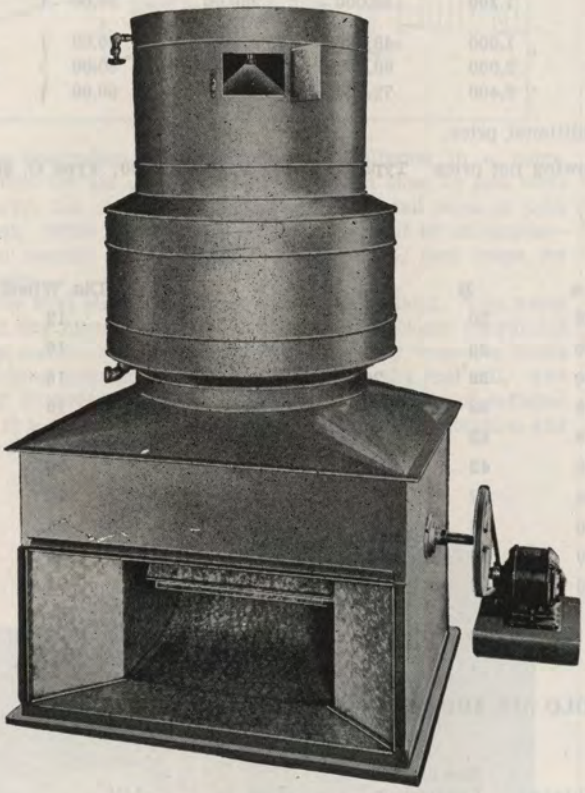
Motors furnished are Split and Single Phase AC. 110-220 volt, 60 cycle.

Prices on Direct Current Motors will be quoted on request.

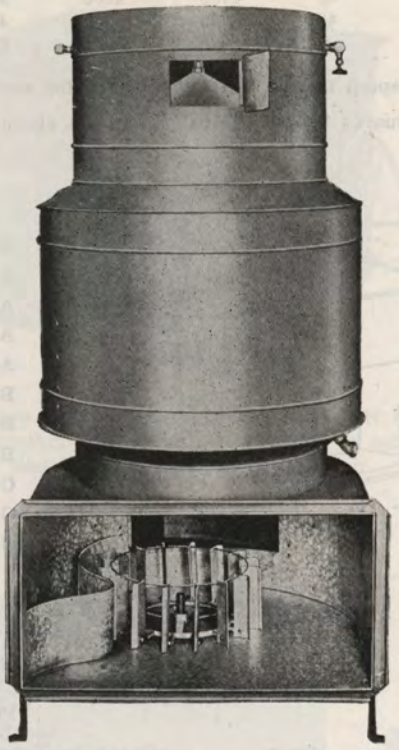
We will be pleased to quote on connections, from Fans to Furnace Casings, or any other galvanized rectangular ducts, fittings or dampers.

SILENT FURNACE FAN AIR WA SHERS

The SILENT FURNACE FAN AIR WASHER thoroughly washes the air circulated through the house. Dust sediment and foreign particles detrimental to health are eliminated and carried away in the drain, thus providing a fresh, clean invigorating atmosphere at all times. The SILENT FURNACE FAN AIR WASHER is of very durable construction with all baffles and parts in contact with water coated with a specially prepared water proofing guaranteed to prevent corrosion and should last a lift time. This unit uses a single specially constructed atomizing nozzle, with water ejected at high velocity in the form of fog like mist causing all air to pass through water screen before returning to the furnace. Due to the designs of the washer a very high degree of efficiency is attained with the cost of operation practically negligible.



Blower Type Fan and Air Washer (A. B. and C.)



Shoe Type Fan and Air Washer

The SILENT FURNACE FAN WASHER provides Humidity in addition to washing the air thereby preventing the warping of furniture. dryness of the mucuos membrance of the nose and throat eliminating colds, etc.

The SILENT FURNACE FAN AIR WASHER is silent in operation and offers no static resistance in the return duct and is manufactured to fit all sizes of SILENT FURNACE FANS both blower type and shoe type fan.

SILENT FURNACE FAN AIR WASHERS are used extensively in homes, schools, theatres and public buildings. The low initial cost and small cost of operation recommend this unit to all wide awake contractors with an eye on additional profits on every job, large or small.

AIR CONDITIONER
MIRACLE

WASHES AND HUMIDIFIES THE AIR
For Use With Warm Air Furnaces

Fig. 1

The air-conditioner is finished in baked enamel, crystal green. The spray is easily accessable through the door on the front. Ten feet of ⅛ inch copper tubing are furnished with the unit equipped with a valve and saddle coupling for a ½-inch water pipe.

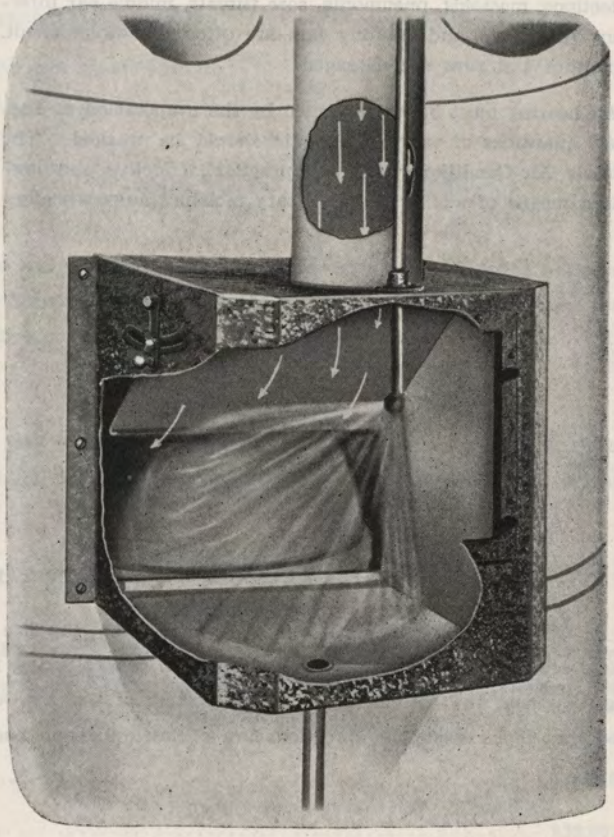


Fig. 2

Figure 2 shows the air conditioner attached to the furnace. Part of the cabinet is cut away to show the spray and damper control. The inside casting of the furnace is also shown. The moisture circulates around this hot casting and distributes itself uniformly throughout the house.

Miracle Air Conditioners—Each **$29.50**

AIR CONDITIONER

MIRACLE

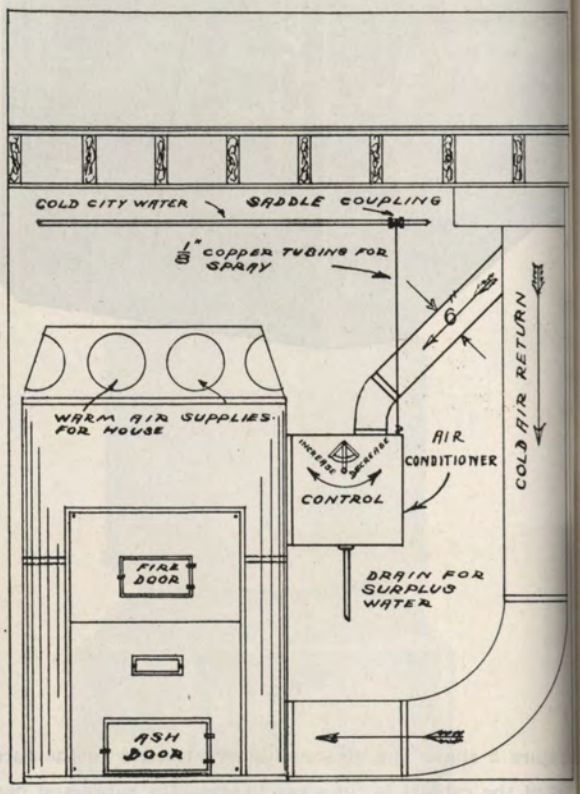
WASHES AND HUMIDIFIES THE AIR

For Use With Warm Air Furnaces

The air in a home during the heating season is drier than the driest desert. Government research has proven this to be the case.

Dry air is uncomfortable, it is dangerous to health. Sinus infections, mastoids, pneumonia, sore throats, middle ear infections (deafness) and running ears are often the direct result. Furniture and rugs are damaged.

All heating must be accompanied by the evaporation of adequate quantities of water. The air should be washed. The **Miracle Air-Conditioner** offers a practical, effective and low-priced means of adding the necessary moisture automatically.



Miracle Air-Conditioner Shown Installed on a Warm Air Furnace

INSTALLATION

Cut an opening in upper ties of furnace jacket the size of Air Conditioner. Attach the Air-Conditioner with six sheet metal screws. Connect the spray line (⅛-inch copper tubing furnished) to cold city water by means of the simple saddle coupling. Connect the ⅜-inch drain at the bottom of the Air-Conditioning cabinet to the sewer or cesspool with ⅜-inch galvanized iron pipe. Complete directions are enclosed in each package.

AUTOMATIC DRIP HUMIDIFIER

THE PRACTICAL AIR MOISTENER

The only heat operated, thermostatically controlled humidifier on the market.

Protects health with proper moisture.

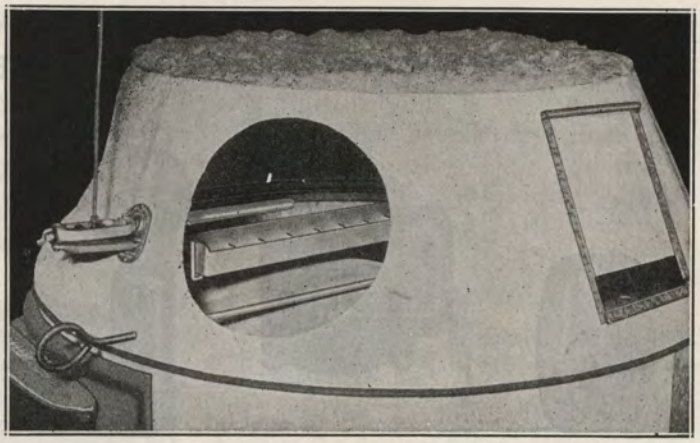
Protects furniture, woodwork, walls, and decorations.

Less dust and dirt, for moist air keeps down dust.

Less fuel consumption.

Endorsed by Heating Authorities and Health Authorities

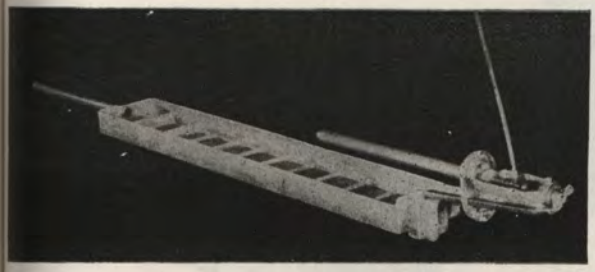
Meets a Need that has Long Been Recognized.



SATISFACTION FOR THE PURCHASER—PROFIT FOR THE DEALER

The Automatic Drip Humidifier combines the right principles for providing moist air in a convenient, practical manner. This humidifier has been on the market long enough to be thoroughly tested and its real value has been proven. It has a host of friends wherever it has been sold and sells readily wherever live dealers have presented the real facts to their customers. Can be installed with or without water pressure. Has enormous selling possibilities for there are more than one hundred reasons why everyone who has a warm air furnace should have an automatic Drip Humidifier.

Recommended by Leading Furnace Manufacturers



MADE TO FIT ALL FURNACES

No warm air furnace should be installed without this device. The humidifier can also be readily attached to any furnace that is already installed.

The No. 16 has two sizes of evaporating pans, one 23 inches long for small furnaces and a 35 inch pan for large furnaces. This model is best for coal burning furnaces. The stem of this humidifier is 16 inches long, and has the hand hole as part of the regular equipment.

The No. 20 Automatic Drip Humidifier has a 24 inch tube or thermostat, and comes with a 35 inch pan only, and is for large furnaces with oil or fan systems.

The hand hole plate is also regular equipment on this size. By having these hand holes the customer can at any time reach through and get the pan of the Humidifier out in 10 seconds to clean out lime. This saves servicing for the dealer. No other Humidifier has this.

No. 16—Price each complete $25.00

No. 20—Price each complete $32.00

TEMPERATURE REGULATOR

ELECTRIC JANITOR AND DELUXE ELECTRIC JANITOR

Manual Thermostat

Electric Janitor Motor

DeLuxe Thermostat

The Electric Janitor is an automatic device for regulating the operation of dampers on domestic coal fired heating plants, and thereby providing accurate, healthful room temperatures. It consists of a control motor which handles the dampers, and a room thermostat which directs the action of the control motor. As the name implies, the outfit is entirely electrical, and requires no attention. It is equally satisfactory on hot water, steam, vapor, or warm air heating systems.

The Electric Janitor Motor itself consists of a sturdy low voltage, shaded pole induction motor, arranged to drive two crank arms, to which the damper chains are to be attached. The crank arms are revolved to either one of two positions, depending on whether the thermostat is calling for more or for less heat. The entire motor mechanism is enclosed in a strong pressed steel case. Bearings throughout are of the oilless type, and require no attention. A manual control switch is incorporated in the motor, so that the user can conveniently close the check damper when stoking the fire.

ELECTRIC JANITOR THERMOSTAT

The Electric Janitor outfit includes a manual type room thermostat (Model 192B), which operates to keep the room temperature uniformly at the setting of its indicator.

DELUXE ELECTRIC JANITOR THERMOSTAT

The DeLuxe Electric Janitor outfit includes a thermostat (Model J8) which incorporates an 8-day clock having a jewelled balance, operating to maintain the desired daytime temperature, automatically changing to any desired lower night time temperature. With this clock type thermostat, all the advantages of uniform temperature regulation are secured, plus the economy resulting from the automatically maintained lowered night time temperature.

Both the Electric Janitor motor and the thermostat operate from low voltage alternating current. An external transformer is provided with the outfit, it can be mounted at any convenient place in the 110 volt supply line. Low voltage cable may then be run from the transformer to the motor and thermostat, making possible ecenomical installation.

Wherever possible a Limit Control should be used with the Electric Janitor as with any other regulator for complete positive protection to the heating plant under all conditions.

Specifications

The Electric Janitor includes the following equipment:

Electric Janitor Motor, Manual Type Thermostat, Low Voltage Transformer and fittings.

Manual Thermostat range: 55° to 90° F. (marked 70° at center) Differential (not adjustable) 2° F.

The DeLuxe Electric Janitor includes the following equipment:

Electric Janitor Motor, 8-day jewelled balance Clock, Low Voltage Transformer and Fittings.

DeLuxe (8 day) Thermostat operating range: 55 to 85° F.

Differential (adjustable): 1° F.

Available only for use on 110 volt 60 cycle alternating current.

Maximum motor load at end of arm: 7 lbs.

Motor dimensions: Height 5¾ inches, width 5¼ inches, depth 5¼ inches.

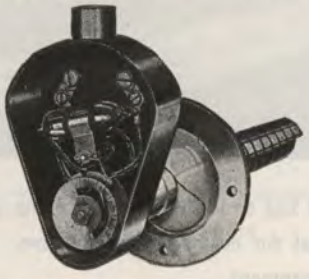
Length of motor arm: 2⅝ inches, making maximum throw 5¼ inches.

Motor finish: Black Crackle Lacquer.

Thermostat finish: Statuary Bronze.

Electric Janitor—Shipping weight 12 lbs. Each $28.00
DeLuxe Electric Janitor—Shipping weight 14 lbs. Each.. 49.00

TYPE L47-2 FURNACESTAT



This control starts the fan motor when the temperature reaches a predetermined point circulating the warm air through the system. It shuts off the fan motor when the bonnet temperature drops below the Furnacestat setting. Thus, no cold air is forced up through the system. Type L47-2 is Mercury Switch equipped. Having an adjustable differential, fan operation may be varied to suit the particular installation.

No. L47-2—(Series 40) for 2-wire line voltage circuits. Motor Ratings: ¾ H. P., 100-250V., R.I., ⅙ H.P., S. P. or D. C. Resistance Loads: 10A., 110V., 5A., 220V. Scale Range: 100° to 250°F. Maximum Differential: 250°; Minimum, 10° F. Each $11.00

Jewell Temperature Regulators

"There is a Jewell Temperature Regulator for Every Purse"

A temperature regulator to suit every condition and price requirement is in the Jewell line. Every home owner in your city is a prospect for some one of the Jewell regulators, all of high quality Minneapolis-Honeywell precision manufacture and giving that accuracy of operation which is only possible with low-voltage current, but each providing different degrees of convenience, according to its price.

Complete Regulators

All fittings to install are included with each order for a *complete* regulator; Room Thermostat of any type with motor of any type; as the J8-JE combination, or the JO-JS, for example.

But to achieve utmost *safety* in heating, as well as greater uniformity of temperature and full economy, the "limit" control of model applicable to the type of heating plant to be controlled, should be added to the installation.

THERMOSTAT

Consists of element sensitive to temperature changes. You set an indicator to the degree of temperature you want. If temperature varies one degree from this point the thermostatic element makes a contact with the motor in the basement. All thermostats are installed by being attached to a wall plate to which the basement wire connections are made. This simplifies installation and enables you to easily remove the thermostat for adjustment. No conduits are necessary from the thermostat to the motor, as the wires carry low voltage current.

TYPE J8
Eight-Day Clock Thermostat

Type J-8 Thermostat—equipped with 8-day jewelled clock which automatically sets indicator to desired lower temperature at retiring time at night and returns it to day setting at rising hour in morning—thus saving fuel and providing more healthful sleeping conditions. A lever enables owner to keep temperature up later than usual on any particular night if he so desires. Requires no attention whatever except winding (from the front) once a week. Small in size, attractive

Type J-0 Thermostat—No clock. Desired temperature is secured by setting indicator at base of instrument. List price $12.50.

Limit Controls

These important instruments are safety devices. They prevent "over-runs" of temperature, save more fuel, and eliminate trouble caused by overheating of furnace or boiler. Installed at the furnace or boiler, they take charge of the dampers before the temperature or pressure at the furnace or boiler rises quite to the danger point, but automatically restore the command of dampers to the room thermostat as soon as the furnace or boiler temperature has moderated to a safe degree.

Limit Controls will operate in conjunction with any Jewell regulator, on any type of heating plant.

AQUASTAT

	LIST PRICE
L215-2—Airstat	$10.50
L209-1—Surface Aquastat for Hot Water.	9.00
L204-2—Pressurestat	9.00
L208-2—Vaporstat	10.50

Motor

Motor opens lower draft (by means of chains) and closes check damper when room thermostat calls for heat, and closes draft and opens check damper when thermostat calls for less heat.

Type J. E. Electric Motor requires no attention. A marvel of simplicity. Silent in operation. Will not cause radio interference. Power used when motor is operating amounts only to that consumed by one ordinary lamp. 110 volt, 60 cycle, A. C. **List Price $36.00.**

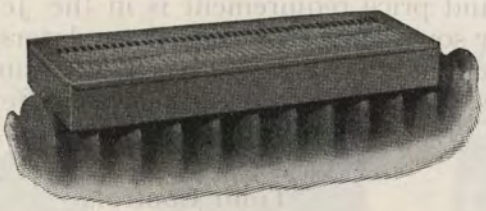
Type J. E. S. Electric Motor with Built-in Switch is similar to the Type J. E., with the addition of a built-in switch for controlling blower fans or circulating water pumps.

Type J. S. Spring Motor—fitted with spring which operates dampers 60 to 75 times on one winding. Necessary to wind spring periodically. Dial on front of instrument indicates when to wind. Can be operated by 2 dry cells. **List price $15.00.**

AIR MOISTENERS

RE-LY-O

THEY GUARD YOUR HEALTH



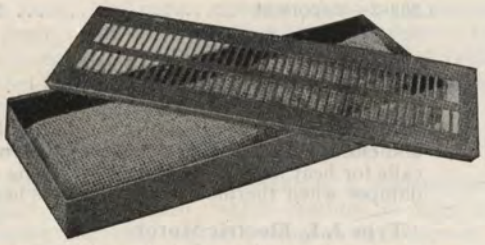
The most efficient wick type air moistener designed especially for steam or hot water radiation.

Relyo Air Moisteners add to your comfort and health because they add needed moisture and absorb all particles of dust and soot circulating in the air.

Heated air, unless moisture is added, will draw the moisture out of furniture, woodwork, plants and the human body. Most colds, coughs and catarrhal conditions are caused by this dryness.

A room temperature of 68° with proper humidity is more comfortable than 72° without. You save on fuel and redecorating expenses with a Relyo. For proper humidification and comfort you should install one Relyo in each room.

Physicians Recommend the Relyo



Built of prime galvanized iron throughout. Standard finishes, gold or aluminum bronze, old ivory finish at small extra cost. Dimensions 9 inches wide, 2¾ inches high, 18 inches, 24 inches, 30 inches and 36 inches long.

Size 18 inches—Each **$2.50**

Size 24 inches—Each **3.00**

Size 30 inches—Each **3.50**

Size 36 inches—Each **4.00**

Add 60c each to above prices for ivory finish.

Wicks for replacement—20c, 25c, 30c and 35c for 18 in., 24 in., 30 in., and 36 in. respectively.

Packed 6 in a carton.

THE MINNEHAHA HUMIDIFIER

RADIATOR SHIELD

The Minnehaha Humidifier is the result of several years' experimental work and many tests in developing humidifying devices for homes, offices, etc. It is, without doubt, the most practical and durable as well as the most efficient device offered for this purpose. At the same time it is very attractive, requires but little attention, and gives a finished appearance to a radiator. It also serves as convenient shelf.

The exceptional humidifying capacity is secured by means of a series of wicks made from a cloth having very efficient capillarity qualities. These wicks form passages through which the dry heated air is forced, thus bringing it into direct contact with the particles of water, which effectively moistens it and at the same time remove any particles of dust which it might contain.

Each Minnehaha Humidifier is carefully packed in a fiber board shipping case.

SIZES AND LIST PRICES

Length In.	Width In.	Height In.	Weight Lbs.	Price
17	10	4½	6	$2.90
24	10	4½	8	3.65
29	10	4½	10	4.15
36	10	4½	12	5.15
Filling Can, 2 galion			2	1.75
Filling Funnel (not necessary when can is used)				.15
Rest (for use on round top radiators) is 4-in. high				.15

TROPIC AIR MOISTENER

THE MOST SCIENTIFIC HUMIDIFIER

The foremost medical authorities and scientists agree on the importance of proper humidification in heated interiors. Humidified air safeguards the health, lessens the danger of nose and throat affections, preserves the furniture and draperies, and makes the home or office a more comfortable place to live in.

IT'E THE WICK THAT DOES THE TRICK

The special wick draws the water from the container and increases (many times) the evaporating surface, may be used with either steam or hot water radiators, and does not interfere with radiator covers.

It is neat in appearance and easy to clean or fill. Equip every room with a "Tropic" Air Moistener.

Furnished in Bronze or Aluminum finish.

14-inch Size—Each $0.60
24-inch Size—Each ..... .75

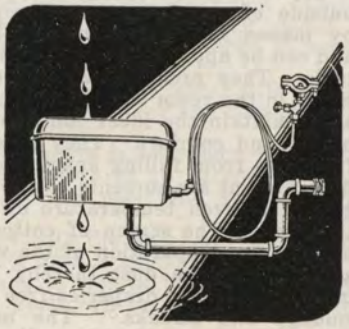
SKUTTLE AUTOMATIC HUMIDIFIER

TYPE "A"

This humidifier is the pioneer in automatic service. Many years of successful performance have made Skuttle humidifiers universally popular. The Type "A" model may be installed in connection with the water pan in any make of furnace.

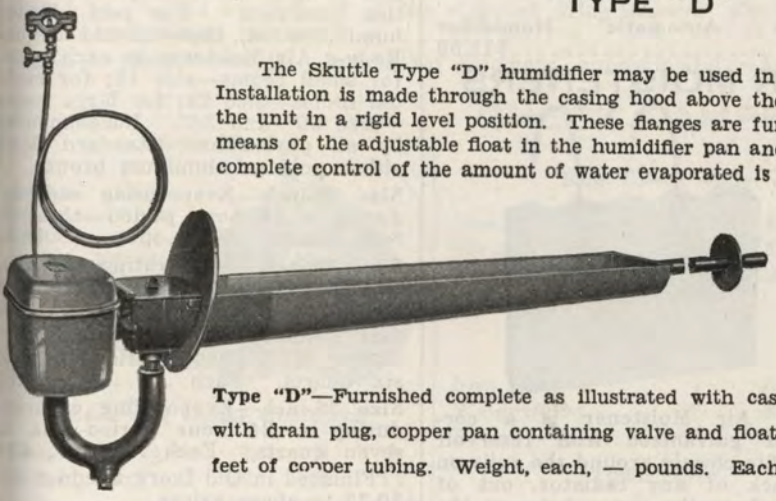
It is absolutely dependable because of its simplicity. There are only two moving parts—a one-piece float and valve. The valve seat is impervious to hard water liming, iron deposits or age. The tank and water line fittings are of heavy copper and brass, making them practically indestructible. So simple is its design and arrangement that installation of it onto any warm air heating system requires only a few minutes.

Type "A"—Furnished complete with copper pan containing valve and float, complete water line connection including 3 feet of copper tubing, and pipe fittings for connecting to water pan. Weight, each, — pounds. Each $11.50



TYPE "D"

The Skuttle Type "D" humidifier may be used in connection with any type of warm air furnace. Installation is made through the casing hood above the radiator or dome. Flanges bolted to the hood hold the unit in a rigid level position. These flanges are furnished for either round or square casings. By means of the adjustable float in the humidifier pan and the slope of the bottom of the cast water pan, complete control of the amount of water evaporated is possible.



Type "D"—Furnished complete as illustrated with cast iron evaporating pan overflow pipe, cast iron trap with drain plug, copper pan containing valve and float, and complete water line connection including 5 feet of copper tubing. Weight, each, — pounds. Each $27.00

MOISTENERS, RAILS, ETC.

REGISTER SHIELDS

Tayco.

Tayco Register Shields fit on the outside of the hot air wall register by means of two adjustable hooks and can be applied without use of any tools. They produce evaporation of water in the room where it is needed, and maintain the ideal condition for health and comfort. They keep the furniture from falling apart, and deflect the hot air currents to the floor giving an even temperature all over the room. The screen of cotton net hastens the evaporation of the water, and collects the dust thereby keeping the walls and draperies free from smudge and streaks. The use of Tayco Register Shields will make your home comfortable at a temperature of 68 degrees which means a saving of at least 20% of your coal bill as dry air has to be heated 10 degrees higher to give the same degree of comfort.

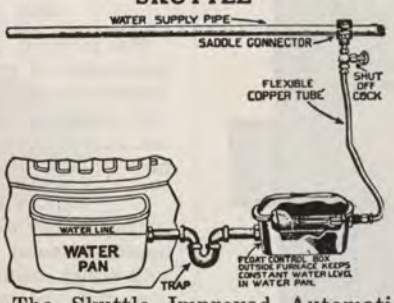
Hot, dry air is like a blotter. It takes moisture wherever it can find it—from the nose and throat and bronchial tubes as well as from the furniture and musical instruments. Hot, dry air causes more deaths annually than all the wars in history. Tayco Register Shields will remedy these faults. They are scientifically constructed and beautifully finished.

No. 1—Black Body with Oxidized Copper Cover. Weight, each, — lbs. Each $2.50

Packed two in a carton.

AUTOMATIC HUMIDIFIER

SKUTTLE



The Skuttle Improved Automatic Humidifier is to be used in connection with the evaporating pan in any Furnace, and its purpose is to keep the water pan filled with water at all times, without any additional care being given in the operating of the Furnace. It is connected direct with your city water or any other water supply, and the new improved valve and float controls the flow of the water perfectly.

Many furnace users forget to fill the water pan regularly—this Humidifier overcomes any such oversight, it is to be used in connection with the Evaporating or Furnace Water Pan on any furnace, and keeps the Water Pan filled at all times.

Our experience shows that it takes from fifteen to twenty quarts of water a day to maintain 50 per cent moisture in the average frame house on a cold day. The Skuttle Improved Automatic Float Valve supplies all the water needed, day after day and month after month. Inadequate water pans and manual operation are responsible for most of the deficiency noted under average conditions.

Skuttle Automatic Humidifier
Each $11.50

AIR MOISTENERS

This Air Moistener is a corrugated galvanized iron reservoir which fits closely around the coils on the back of any radiator, out of sight, where the space between the side wall and radiator is 2½ inches or more, holds 3½ quarts.

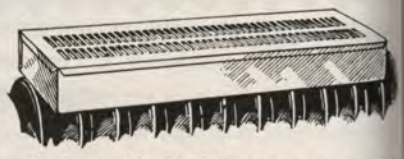
The entire operation is automatic, the heat of the radiator coming in direct contact with the corrugated back of the moistener which fits closely around the coils of the radiator, the water becomes hot and evaporates very rapidly.

Filled with water will also keep furniture from shrinking and falling to pieces, piano sounding board from warping and checking, wallpaper from peeling, bookbindings breaking, paintings from cracking and the whole family from colds.

No. 11—Length 13½ inches, height 9 inches, width 2¼ inches; nicely finished in gold or aluminum to match radiators; weight, each, 1¾ lbs. Per dozen $9.00

One in a carton.

Re-ly-o.



Re-ly-o Air Moisteners are especially designed for hot water and steam radiation. Re-ly-o Air Moisteners add to your comfort and health because they add moisture to the air in your home. The average heating plant does not add any moisture to the air. When you heat the air you must add moisture, otherwise the heat will draw the moisture out of the furniture, woodwork, and the human body. The temperature in the average house is 72 degrees Farenheit, and without some means of adding moisture it is really unhealthy to live in such dry heat. Bad colds and coughs are mostly caused by this condition. For real efficient humidification, there should be one Re-ly-o Air Moistener in each room; for small rooms—size 18; for medium rooms—size 24; for large rooms—size 30" and 36". Recommended by all physicians. Standard finish either gold or aluminum bronze.

Size 18-inch—Evaporating capacity, during a 24 hour period—three to four quarts. Each.....$2.50

Size 24-inch—Evaporating capacity, during a 24 hour period—four to five quarts. Each..... 3.00

Size 30-inch—Evaporating capacity, during a 24 hour period—five to six quarts. Each..... 3.50

Size 36-inch—Evaporating capacity, during a 24 hour period—six to seven quarts. Each..... 4.00

Finished in Old Ivory Lacquer add $0.35 to above prices.

Six in a carton.

AIR MOISTENERS

SIMPLEX

FOR WARM AIR FURNACE—HAS NO FLOAT

The Simplex Is Easy to Operate

The automatic shut off works on the lever and fulcrum principle. The trough or evaporating pan is suspended from the pipe and near the front of the machine, while at the rear of the trough is a counter weight. When enough water has accumulated in the trough, the weight of the water causes the trough to lower or drop at the rear and raises the front end. This raising of the front end forces a rubber gasket to seat into the drip valve, thereby shutting off the flow of the water. It is positive and sure, for it is not possible for it to do anything but shut off. The more water, the more weight, the more weight the more pressure on the shutoff gasket.

As the accumulated water is evaporated, the counter weight at the rear of the trough reverses the action bringing the machine back to the open position and the water starts flowing again according to the adjustment. It takes approximately five pints of water in the trough to shut off the flow of water, but the machine has a capacity of ten pints before it can overflow; this extra five pints is, of course, extra power exerted on the shutoff gasket.

The flow of the water is regulated by the valve in the front of the machine, as much or as little as necessary to meet the requirements.

The idea being to have the water flow in a steady drip so that when the fire is normal, the water will be evaporated about as fast as it drips in. The automatic shutoff takes care of the situation, when for any reason water has accumulated in the trough. The drip or feed is always in sight.

It is stated by authorities that at least one gallon of water per room every 24 hours is necessary for proper humidity. Approximately two drops per second through this moistener means that from 8 to 10 gallons of water will be used in 24 hours. It is a simple matter to regulate the flow of the water to meet the requirements. After you have it set right, leave it alone. It will take care of itself.

The trough is made of cold rolled copper. All other parts coming in contact with the water are brass, nothing to rust or corrode. The moistener is easily installed in any furnace. An hour's time is all that is necessary.

The rubber gasket should last for several years, but if or when it is necessary to put in a new one, it can be done in 5 minutes and the only tool to be used is a screw driver. The gasket itself can be bought for a few cents.

There is a sponge and fine mesh brass strainer in the top part of drip valve to filter the water. These should be cleaned or changed at the close of firing season. Easily done, simply unscrew this top part and take out the sponge and strainer.

Simplex—Weight complete packed for shipment, approximately 15 pounds. Each $29.00

CHECK DAMPERS

Adams No. 1.

Adams check damper for furnace pipe can be set in any position on the pipe. Made of cast iron and in 4 sizes.

Check and Collar Complete.

Size, inches	7	8	9
Weight, lbs. ...	8	10	11
Each	$1.60	2.00	2.25

End Check Only.

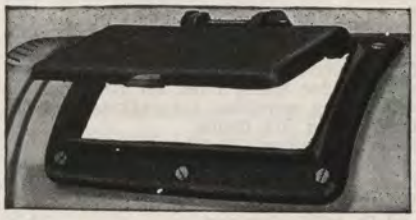
Size, inches	7	8	9
Weight, lbs. ...	5	6	7
Each	$1.20	1.60	1.85

Collars Only.

Size, inches	7	8	9
Weight, lbs. ...	3	4	4
Each	$0.50	0.50	0.65

Open stock.

Adams No. 2



Size pipe, in.	6-7-8	9-10-11
Each	$1.50	$1.50

Weight, each, about 2¾ pounds.

ASBESTOS PAPER, CEMENT, ETC.

FURNACE CLOCKS

LITTLE JANITOR
Tillery's

1st.—Insures a warm house every morning before you arise.

2nd.—Is a protection to your health; no chilly cellars to enter, which is liable to cost you a doctor bill ten times the price of the clock for not having a Little Janitor Clock attached to your furnace.

3rd.—Will save one and a half ton of coal a season according to the size of furnace, or eight to ten tons during its usefulness. The clock should last five to six years with proper care.

4th.—Is better than one thousand dollars at four per cent. interest in any saving institution.

5th.—One hour's sleep and rest gained every morning when in use. Can be used Sundays when on a visit; set the clock a half hour before you expect to return and your house will be warm when you enter.

6th.—Will pay for itself in three weeks time.

7th.—Is inexpensive. No janitor service could be obtained at price of clock.

8th.—Is not a luxury, but a necessity. No furnace is complete without it.

9th.—Guaranteed by the manufacturer for one year.

10th.—Can also be used for: blower systems, oil heaters, shutting off or on electric switches.

11th.—Is very necessary for factory or store when large quantity of coal is required. Insures heat or steam at time needed.

12th.—Will heat the house, store or factory at time most needed, the same as any $50.00 to $100.00 draft operator. Why pay more when the Little Janitor will do its work the same as the most expensive ones. It's guaranteed to do it and wear just as long.

Tillery's Little Janitor Clocks will automatically operate the drafts of any furnace; steam, hot water, hot air, or pipeless.

The clock is made with an iron frame on the inside to withstand weight without affecting the works. The works are screwed on to the frame at three places. The direct strain comes at the top. Has free action. Made of heavy steel.

Tillery's Little Janitor Clocks—Weight complete, 10 pounds. Each $8.00

Clocks are packed complete for all furnaces. Each consists of two pulleys, spring, screw hook, door wedge and 20 feet of chain. Full installation instructions for any furnace or boiler are packed with each clock.

ASBESTOS PAPER

Our Asbestos Paper is chosen with the requirements of the furnace installer especially in mind. It is very white in color, making possible an attractive appearance not obtainable with dark paper. It will give maximum protection against heat and is properly sized so as to absorb just the right amount of paste.

Also used for making heat-resisting coverings, for fitting hard-to-reach corners, for protecting wood partitions, for lining walls and ceilings, for combating vermin, for lining weatherboards and floors, for low voltage electrical insulation, for lining stoves and ovens, for lining gas ranges, for forming Neon signs, for electric appliances, for acetylene welding, for lining flues, for filtering, for advertising novelties, for gaskets and for fireproofing fire doors.

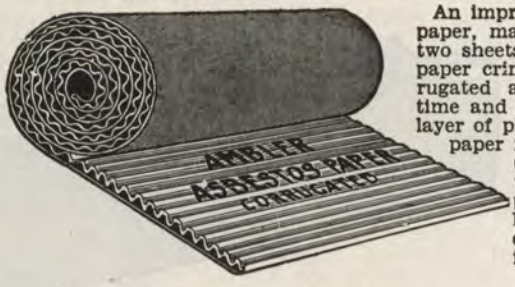
No. 12—Weight, 12 lbs. Per 100 sq. ft. approximate thickness .028 inches. 36-inches or 18-inches wide.

100 lb. rolls—Per cwt. $14.20
50 lb. rolls—Per cwt. 14.50

No. 14—Wt., 14 lbs. per 100 sq. ft. approximate thickness .03 in. 36-inches or 18-inches wide.

100 lb. rolls—Per cwt. $14.20
50 lb. rolls—Per cwt. 14.50
50 lb. rolls—(18-inch wide). Per cwt. $14.50

CORRUGATED ASBESTOS PAPER



An improved air cell paper, made by using two sheets of asbestos paper crimped or corrugated at the same time and an alternate layer of plain asbestos paper firmly bonded together with fireproof glue. Recommended for covering hot air pipes, furnaces, ducks, etc. Furnished in rolls 36-inches wide, 250 sq. ft. per roll—¼-inch corrugations. Wt., per roll 58 lb.

Full rolls—Per roll $10.50
Less—Per square foot ..... .08

ASBESTOS AIR CELL BOARD

For medium, low temperature insulation in boiler room ceilings, hot air ducts, dry kilns, ovens, steel safes, fireproofing wood joists, etc.

Regularly finished in blocks ½-inch to 3-inches thick, 3-inches or 6-inches wide, 36-inches long. Also in sheets 36x36-inches, and 36x48 inches.

2 Ply— ½-inch thick.	23 sheets to carton.	Per sq. ft....	$0.12
3 Ply— ¾-inch thick.	15 sheets to carton.	Per sq. ft....	.14
4 Ply—1 -inch thick.	12 sheets to carton.	Per sq. ft....	.20
5 Ply—1¼-inch thick.	9 sheets to carton.	Per sq. ft....	.24
6 Ply—1½-inch thick.	8 sheets to carton.	Per sq. ft....	.28

ASBESTOS MILL BOARD

Made of high grade asbestos fibre and suitable binders.

Has a smooth surface on one side and is of white color. Used for making fire screens, partitions and to protect walls and ceiling. Also for lining furnaces, stoves, etc. Sheets 42x48-inches.

Thickness	Sheets per case	Weight per sheet		
1/32	215	2½-lbs.	Per lb.	$0.18
1/16	100	5 -lbs.	Per lb.	.18
3/32	75	6½-lbs.	Per lb.	.18
⅛	52	10 -lbs.	Per lb.	.18
5/32	35	15 -lbs.	Per lb.	.18
¼	28	19 -lbs.	Per lb.	.18
⅜	19	25 -lbs.	Per lb.	.18
½	14	33 -lbs.	Per lb.	.18

DRY PASTE & CEMENT

ASBESTOS PLASTIC CEMENT

Composed of Asbestos Fibre, Magnesia and other high grade insulating materials. A white cement of exceptional high insulating value, smooth in character, sticks well, flows freely under the trowel and has the qualities which permit the skilled mechanic to use a rubber pad for furnishing fittings.

It is practically an all-purpose cement. It is of as high quality as can be bought, regardless of price. It has an actual covering capacity of 27 square feet one-inch thick per 100 lbs.

50 or 100 pound bag—Per 100 lbs. $4.40

Small lots per pound ..... .06

ASBESTOS COVERINGS

AIR CELL SECTIONAL

This asbestos air cell sectional covering for steam and hot water pipes is constructed of successive layers of plain and corrugated asbestos paper,thus forming a complete air space between each ply. It is a well-known fact that air confined in spaces or cells offers greater resistance to heat than any material in solid form.

We recommend sealing ends of air cell covering as each section as applied with asbestos plastic cement. This gives an absolutely dead air space.

4-ply 1-inch thick, for high pressure steam pipes.

3-ply ¾-inch thick, for low pressure steam or hot water pipe.

2-ply ½-inch thick, for Hot Water Pipes.

For pipe, inches	½	¾	1	1¼	1½	2
Per lineal ft.....	$0.22	$0.24	$0.27	$0.30	$0.33	$0.36
For pipe, inches	**2½**	**3**	**3½**	**4**	**4½**	**5**
Per lineal ft.	$0.40	$0.45	$0.50	$0.60	$0.65	$0.70
For pipe, inches	**6**	**7**	**8**	**9**	**10**	**12**
Per lineal ft.	$0.80	$1.00	$1.10	$1.20	$1.30	$1.85
For pipe, inches	**14**	**16**	**18**	**20**	**24**	**30**
Per lineal ft.	$2.10	$2.35	$2.60	$2.85	$3.30	$4.00

In canvas jacked sections 36 inches long.

WOOL FELT SECTIONAL COVERING ASBESTOS LINED

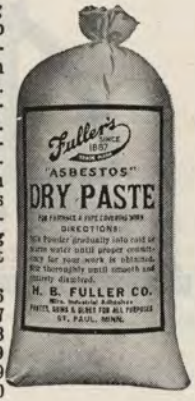
Made from selected wool felt, indented before being rolled up so as to make small dead air space througout the section. It also has a lining of asbestos felt. A good non-conducting and serviceable covering.

½-inch thick, for hot water; ¾-inch thick, 1-inch thick, for low pressure steam pipes.

For pipe, inches					½	¾
Per lineal foot					$0.22	$0.24
For pipe, inches	**1**	**1¼**	**1½**	**2**	**2½**	
Per lineal ft.	$0.27	$0.30	$0.33	$0.36	$0.40	
For pipe, inches	**3**	**3½**	**4**	**4½**	**5**	
Per lineal ft.	$0.45	$0.50	$0.60	$0.65	$0.70	
For pipe, inches	**6**	**7**	**8**	**9**	**10**	
Per lineal ft	$0.80	$1.00	$1.10	$1.20	$1.30	

ASBESTOS DRY PASTE

In Powder Form to Mix with Cold Water—For Sticking on Furnace and Pipe Coverings—Both Cloth and Asbestos



This solves the paste problem for heating contractors, plumbers and ventilators, who require a reliable adhesive for pasting asbestos coverings, both cloth and paper, on hot air and hot water pipes and on furnaces. It is not affected by extreme high temperature, so that the covers will never peel off.

It is in powder form, which keeps forever, and is prepared for use by simply stirring into cold water right on the job. Can be mixed thick or thin in any quantity as work requires. Has extensive covering capacity; one pound of the powder making over a gallon of the paste, ready for use. It is clean, sanitary and vermin proof.

200-lb. Barrels—Per lb. $0.16
100-lb. Kegs—Per lb. ..... .17
50-lb. Drums. Per lb. ..... .18
25-lb. Pails—Per lb. ..... .19
10-lb. Bags—Per lb. ..... .19
5-lb. Bags—Per lb. ..... .20
2½-lb. Bags—Per lb ..... .24

LARCO MINERAL PASTE

Larco Mineral Paste does not turn brown from heat as do cereal pastes. This does away with stains on the paper. Larco paste is impervious to mice or rats. They will not touch it in either dry or moist form. Does not sour after mixing. One pound will make two gallons of paste suitable for furnace use.

In mixing Larco Paste first put the correct amount of water into the pail or barrel and then sprinkle the right amount of powder on top of the water. Allow this to stand from 12 to 24 hours, giving the powder a chance to break down, then stir the mixture as vigorously as possible.

2½ lb. bags—Per dozen .....$ 6.00
5 lbs. bags—Per dozen 11.00
35 lb. pails—Per dozen 60.00

FURNACE CEMENT

RUTLAND

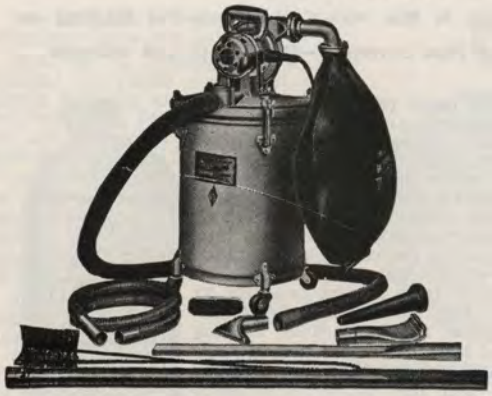
A quick setting asbestos furnace cement. Especially suitable for repair work and is also good for setting up furnaces and stoves. Does not shrink when subjected to heat.

1 lb. cans—Each $0.25
5 lb. cans—Each ..... .90
10 lb. cans—Each 1.75

FURNACE CLEANERS

TORNADO

BREUER'S BALL BEARING FURNACE VACUUM CLEANER



A COMPLETE MACHINE WITH GREATER:

Power	**(½ H. P. G. E. Motor) ....**	**32½ Inch Water Lift**
Durability	**(Will Last 10 years or more)**	**Low Yearly Cost**
Portability	**(Weighs Only 30 Pounds) ..**	**One Man Cleaner**
Efficiency	**(10 Complete Attachments)**	**Saves Time and Labor**

Means Faster, Easier and More Thorough Cleaning

YOU NEED THE TORNADO IN YOUR BUSINESS—IT MAKES MONEY AND SATISFIED CUSTOMERS!

TORNADO Furnace Cleaning Service gets you down in the basement where you can sell profitable repairs and replacements. As a result, thousands of Tornado Furnace Cleaner user have increased their sales and profits. You too can earn hundreds of dollars in profit on the cleaning work itself and get more new business than you could get in any other way.

The TORNADO combines real cleaning power with compact design, light weight and a complete set of ten thoroughly efficient attachments as standard. This means faster and better work with a great saving of time and labor. Therefore, you can do more jobs per day with the TORNADO at a greater profit for you on every cleaning job.

Why sit and wait for orders when your competitor is out after business? Cash in on TORNADO Furnace Cleaning Service. SEND IN YOUR ORDER TODAY.

The ten efficient attachments furnished as standard are as follow: No. 5 Brush for Nozzle, No. 20 for romoving light dust from pipe, No. 16 Rubber Nozzle to attach to motor unit for blowing down registers, No. 17 Nozzle with Scraper for removing scale from firepot, etc., No. 20 Standard Cleaning Nozzle, No. 25 46-inch Steel Extension, Handle No. 28 Large Size Dust-Proof Bag, No. 30 Full rubber suction hose, 8 feet in length and 1½ inch diameter No. 31 Flexible Metal Hose for cleaning furnace radiators, length 6 feet, No. 32 Wire Flue cleaning Brush with 5 feet flexible Handle, 4-inch diameter No. 33 Flat Steel cleaning tool. In addition you receive our Sales Plan Showing you how to get this profitable business and 300 mailing circulars and 100 furnace stickers, imprinted with your name free.

SPECIFICATIONS—½ H. P. General Electric Universal Motor for 110, 220 or 250 volts, A. C. or D. C. (Specify voltage when ordering). Motor mounted on Norma Precision Ball Bearings which require no oiling. 10 gallon steel container attractively finished in aluminum and mounted on four easy running rubber caster. 20 feet of reinforced rubber cable with unbreakable rubber plugs. Complete weighs only 30 pounds.

GUARANTEE—Breuer's Ball Bearing TORNADO Portable Furnace Vacuum Cleaner is fully guaranteed for one year against mechanical or electrical defects. (Natural wear accepted).

Model 72—Complete with 10 Standard Attachments. Each $279.00

Cleaning around doors after completing job means neat work and pleases customers.

Cleaning outside of air ducts takes only a few minutes with handy TORNADO attachments.

The TORNADO is so compact and portable it can easily be taken upstairs for cleaning registers. The TORNADO can also be used as a blower for blowing down hot and cold air ducts. (An exclusive TORNADO feature.)

INSTRUCTIONS FOR ORD ERING FURNACE FITTINGS

On the following pages you will find illustrated and listed Furnace Pipe and Fittings. The various styles are arranged in the folowing order—

Wall Pipe or Stack
Stack Angles, Offsets, Reducers and Tees
Stack Elbows
Stack Heads and Boots
Register Angles, Elbows and Boots
Register Heads

Double Wall Stack and Fittings are shown first, then Single Wall Stack and Fittings are shown. Following Single Fittings you will find Round Pipe and Elbows and then material for Cold Air Returns.

Furnace Pipe and Fittings are constructed in two ways: That known as "Double" is made of two thicknesses of tin having an air-space between, while in "Single" construction there is only one thickness of tin.

It will be noticed that two kinds of Boots, Angles, etc. are listed, i. e., **Stack** Boots and **Register** Boots, **Stack** Angles and **Register** Angles, etc. The word "Stack" indicates that the part is to be used in connection with a Stack run to the second floor, while the word "Register" shows that the part is to be used in connection with a first floor register. It is absolutely necessary that either "Stack" or "Register" be specified when ordering.

In order to prevent any chance of misunderstanding or error when ordering Furnace Fittings, please be sure to give the following information when ordering—

WALL PIPE OR STACK

Always indicate the size stack wanted by number and state the length of pieces wanted. Double Stack is sold by the piece.

In ordering Single Stack, bear in mind that nested Single Stack comes in two foot lengths and is charged by the foot. Made up Single Stack comes in five foot lengths and is charged by the foot.

STACK ANGLES, OFFSETS, REDUCERS and TEES

When ordering Stack Angles, and Offsets, indicate simply the cut number and the size of Stack. For instance, "1—Cut 4 Angle for No. 6 Double Stack."

When ordering Reducers indicate the cut number and then the size of stack at both the large and small ends. For instance, "1—Cut 18 Reducer for No. 8 to No. 6 Double Stack."

When ordering Tees indicate the cut number andthe size of stack. For instance, "1—Cut 15 Tee for No. 6 Double Stack."

When ordering Reducing Tees indicate first the cut number and then the number stack used on the main run and then the size stack used on the tee. For instance, "1—Cut 11 Reducing Tee No. 8 Stack with No. 6 Tee."

STACK ELBOWS

When ordering Stack Elbows it is necessary to indicate only the cut number and size of stack. For instance, "1—Cut 33 Reverse Elbow for No. 6 Double Stack."

STACK HEADS AND BOOTS

When ordering Stack Heads indicate first the cut number wanted, then the size of Stack and then the register size. For instance, "1—Cut 20 Stack Head for No. 8 Stack, Register size 9x12."

When ordering Stack Boots indicate first the cut number, then the size of stack and then the size of the warm air pipe which the boot is to fit. For instance, "1—Cut 75 Stack Boot for No. 6 Stack with 9″ Collar."

REGISTER ANGLES, ELBOWS AND BOOTS

When ordering Register Angles, and Elbows all that is necessary is to indicate the cut number wanted and the number of the register. For instance, "1—Cut 1 Register Angle for No. 54½ National Register."

When ordering Register Boots indicate the cut number, then the size register and then the size round pipe For instance, "1—Cut 75 Register Boot for No. 54 National Register with 12″ Collar."

REGISTER HEADS

When ordering Register Heads indicate the cut number wanted and the number of register. For instance, "1—Cut 20 Register Head for No. 55 National Register." If a top collar is wanted specifications should read "with Top Collar."

The above instructions refer specifically of double fittings but should also govern orders for single fittings The letter "S" should always be added to the cut number when single instead of double is wanted.

Note—U. S. Register Co's. numbers are the same as Kwik-Lok numbers except where noted.

Weights of KWIK-LOK Furnace Pipe and Fittings

These Weights Do Not Include Crating.

FLOOR REGISTER BOXES

IN ONE HUNDRED LOTS

	DOUBLE BOX	CUT 50
8x10	163 lbs.	94 lbs.
8x12	181 lbs.	
9x12	194 lbs.	106 lbs.
10x12	206 lbs.	138 lbs.
10x14	225 lbs.	145 lbs.
12x14	245 lbs.	156 lbs.
12x15	269 lbs.	
14x16	300 lbs.	
14x18	381 lbs.	

KWIK-LOK STACK

IN ONE HUNDRED PIECE LOTS

2-inch	81 lbs.	88 lbs.
4-inch	145 lbs.	150 lbs.
5-inch	169 lbs.	175 lbs.
6½-inch		200 lbs.
8-inch	225 lbs.	231 lbs.
10-inch	263 lbs.	269 lbs.
12-inch	313 lbs.	313 lbs.
20-inch	431 lbs.	450 lbs.
51-inch	1063 lbs.	1145 lbs.
58-inch	1213 lbs.	1256 lbs.

FITTINGS

IN ONE HUNDRED PIECE LOTS

	No. 6	No. 8
Angles Cut 1	113 lbs.	125 lbs.
Elbows Cut 5	150 lbs.	156 lbs.
Angles Cut 4	181 lbs.	200 lbs.
Elbows Cut 7	306 lbs.	
Tee Cut 19	250 lbs.	263 lbs.
Tee Cut 17	306 lbs.	325 lbs.
Tee Cut 13	375 lbs.	375 lbs.
Tee Cut 15	381 lbs.	381 lbs.
Reducer Cut 18	131 lbs.	169 lbs.
Reverse Cut 37	219 lbs.	219 lbs.
Reverse Cut 31	306 lbs.	306 lbs.
Reverse Cut 32	300 lbs.	306 lbs.
Reverse Cut 33	294 lbs.	300 lbs.
Reverse Cut 34	300 lbs.	325 lbs.
Stack Head Cut 21	213 lbs.	219 lbs.
Stack Head Cut 22	219 lbs.	225 lbs.
Head Cut 20	250 lbs.	281 lbs.
Head Cut 30	269 lbs.	238 lbs.
Boot Cut 75	219 lbs.	206 lbs.

BOOTS, HEADS, ANGL ES AND EXTENSIONS

IN ONE HUNDRED LOTS

	Boots	Heads	Angles Cut 1	Extensions 2"	Extensions 4"
No. 53½ Cut 20	213 lbs	294 lbs.	138 lbs.	94 lbs.	150 lbs.
No. 53½ Cut 30	250 lbs.	288 lbs.	169 lbs.	94 lbs.	150 lbs.
No. 52½ Cut 20	231 lbs.	325 lbs.	156 lbs.	94 lbs.	169 lbs.
No. 52½ Cut 30	294 lbs.	313 lbs.	169 lbs.	106 lbs.	163 lbs.
No. 54½ Cut 20	231 lbs.	325 lbs.	156 lbs.	94 lbs.	169 lbs.
No. 54½ Cut 30	294 lbs.	313 lbs.	169 lbs.	106 lbs.	163 lbs.
No. 55 Cut 20	294 lbs.	363 lbs.	169 lbs.	106 lbs.	175 lbs.
No. 55 Cut 30	350 lbs.	369 lbs.	225 lbs.	125 lbs.	175 lbs.
No. 56 Cut 20	300 lbs.	425 lbs.	194 lbs.	106 lbs.	163 lbs.
No. 56 Cut 30	431 lbs.	388 lbs.	275 lbs.	145 lbs.	231 lbs.
No. 57 Cut 20	313 lbs.	445 lbs.	200 lbs.	119 lbs.	163 lbs.
No. 57 Cut 30	406 lbs.	438 lbs.	306 lbs.	145 lbs.	269 lbs.

KWIK-LOK DOUBLE WALL FITTINGS

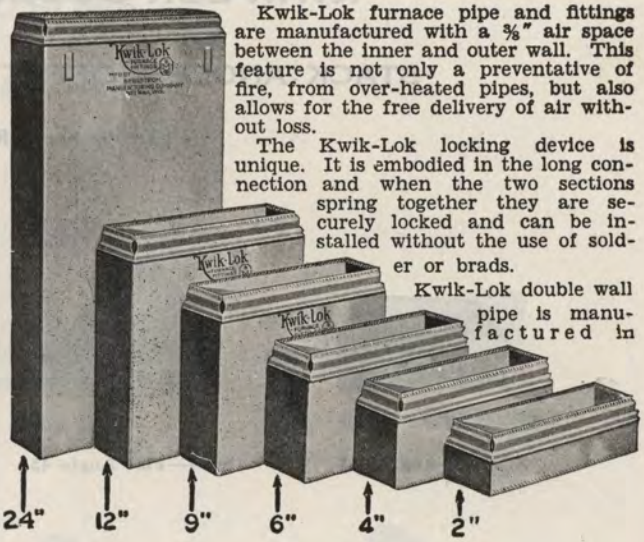
In marketing KWIK-LOK furnace pipe we do not offer so many pounds of metal and so much labor but a perfected article in which are combined the skill, brains and experience of the men back of this institution, who have for years held a prominent place in the field as warm air heating engineers.

Kwik-Lok Wall Pipe Construction

Note original Kwik-Lok spring locking devise.

Kwik-Lok is the only Double Wall Pipe made with independent braces between inner and outer wall to absolutely maintain an equal air space and make Kwik-Lok the most rigid on the market.

KWIK-LOK DOUBLE WALL PIPE



Kwik-Lok furnace pipe and fittings are manufactured with a ⅜" air space between the inner and outer wall. This feature is not only a preventative of fire, from over-heated pipes, but also allows for the free delivery of air without loss.

The Kwik-Lok locking device is unique. It is embodied in the long connection and when the two sections spring together they are securely locked and can be installed without the use of solder or brads.

Kwik-Lok double wall pipe is manufactured in standard lengths as shown below which with the Adjustable joint will take care of every requirement for every job.

The original spring locking device was first introduced on Kwik-Lok Fittings, and has never been changed.

STACK CASES

A convenient method of ordering. Giving the dealer an excellent assortment. Any changes in lengths will change total lists. One case containing 56 Feet of Wall Pipe.

KWIK-LOK DOUBLE WALL PIPE

LIST PRICES

Wall Pipe No.	5	7	6	8	9	11	12
Inside	2⅝x10	3x10	2⅝x1	23x12	3x13	4⅜x13	4⅜x14
Outside	3¼-10⅜	3⅝-10⅜	3¼-12⅜	3⅝-12⅜	3⅝-13⅜	5-13⅜	5-14⅜
2" Length	$ .50	$ .50	$ .60	$ .60	$ .75	$ .85	$ .90
4" "	.60	.60	.70	.70	.85	.95	1.00
6" "	.70	.70	.80	.80	.95	1.05	1.15
9" "	.90	.90	1.00	1.00	1.25	1.35	1.45
12" "	1.00	1.00	1.15	1.15	1.40	1.60	1.75
24" "	1.80	1.80	2.00	2.00	2.40	2.80	3.15
Adj. Joint	1.50	1.50	1.65	1.65	2.00	2.75	3.25

LIST PRICES

Stack Cases Containing 56 Feet of Wall Pipe

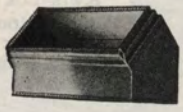
Wall Pipe No.		5	7	6	8	9	11	12
2	2" Lengths	$1.00	$1.00	$1.20	$1.20	$1.50	$1.70	$1.80
2	4" "	1.20	1.20	1.40	1.40	1.70	1.90	2.00
4	6" "	2.80	2.80	3.20	3.20	3.80	4.20	4.60
4	9" "	3.60	3.60	4.00	4.00	5.00	5.40	6.80
6	12" "	6.00	6.00	6.90	6.90	8.40	9.60	10.50
22	24" "	39.60	39.60	44.00	44.00	52.80	61.60	69.30
Total List Price		54.20	54.20	60.70	60.70	73.20	84.40	95.00

Kwik-Lok Wall Pipe Is Sold By The Piece and Not By the Foot

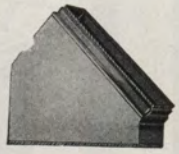
KWIK-LOK DOUBLE WALL FITTINGS

STACK ANGLES, OFFSETS, REDUCERS AND TEES

(To Fit Stack Runs to 2nd Floor.)

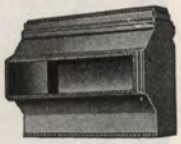


Cut 1—Angle 45°

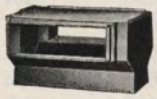


Cut 4—Flat Angle 45°

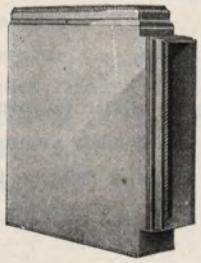
Cut 18—Reducer



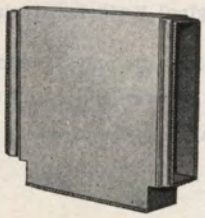
Cut 19—Tee



Cut 17—Tee



Cut 11—Reducing Tee



Cut 15—Tee

Cut 13—Flat Tee

For Stack Size	No. 5	No. 6	No. 7	No. 8	No. 9	‡No. 11	‡No. 12
Cut 1 Angles, each.....	$ .80	$ .90	$ .80	$ .90	$1.10	$1.60	$2.00
Cut 4 Angles, each.....	1.20	1.30	1.20	1.30	1.60	2.25	2.75
Cut 2 Offsets, each.....	1.60	1.80	1.60	1.80	2.20	3.20	4.00
Cut 18 Reducers, each.....	1.70	1.80	1.70	1.80	2.15	3.25	4.00
Cut 8 Offset, each.....	2.40	2.60	2.40	2.60	3 20	4.50	5.50
Cuts 17 and 19 Tees, each.....	2.00	2.15	2.00	2.15	2.55	3.85	4.25
Cut 11 Tees, each.....	4.00	4.35	4.00	4.35	5.35	6.00	6.65
Cuts 13 and 15 Tees, ecah.....	2.80	3.15	2.80	3.15	3.60	4.60	5.20

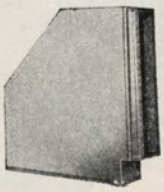
Items marked thus ‡ not carried in stock, but shipped direct from factory.

KWIK-LOK DOUBLE WALL FITTINGS

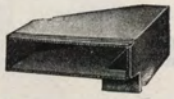
STACK ELBOWS

(To Fit Stack Runs to 2nd Floor.)

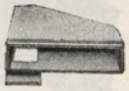
Cut 5—Elbow 90°



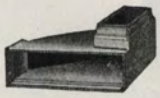
Cut 7—Flat Elbow 90°



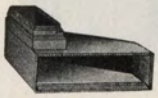
Cut 31—Reverse Elbow



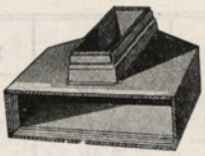
Cut 32—Reverse Elbow



Cut 33—Reverse Elbow

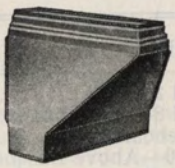


Cut 34—Reverse Elbow



Cut 35—Reverse Elbow

Cut 36—Reverse Elbow



Cut 37—Reverse Joint

LIST PRICE

For Stack Size	No. 5	No. 6	No. 7	No. 8	No. 9	‡No. 11	‡No. 12
Cut 5 Elbows, each.....	$1.40	$1.50	$1.40	$1.50	$1.80	$2.80	$3.10
Cut 7 Elbows, each.....	2.30	2.50	2 30	2.50	2.75	3.90	4 25
All Reverse Elbows— Cut 31, 32, 33, 34, 35, 36, 37, ea.	4.00	4.35	4.00	4.35	5.35	6.00	6·65

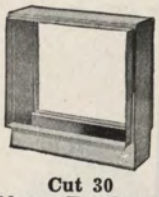
Items marked thus ‡ not carried in stock, but shipped direct from factory.

KWIK-LOK DOUBLE WALL FITTINGS

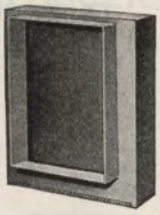
STACK HEADS

(To Fit Stack Runs to 2nd Floor.)

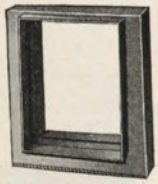
Cut 20
Above Baseboard
Horizontal Head



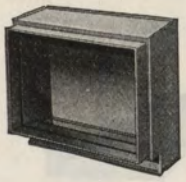
Cut 30
Above Baseboard
Horizontal Head



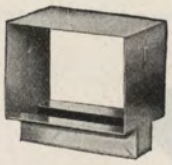
Cut 20
Above Baseboard
Vertical Head



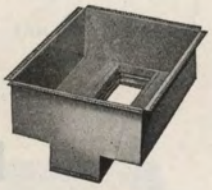
Cut 30
Above Baseboard
Vertical Head



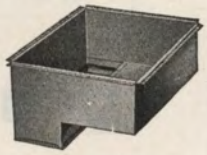
Cut 20
Baseboard Head



Cut 30
Baseboard Head



Cut 21
Stack Head



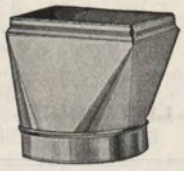
Cut 22
Stack Head

LIST PRICES

For Stack Size.....	No. 5	No. 6	No. 7	No. 8	No. 9	‡No. 11	‡No. 12
Cuts 21 and 22.....	$2.05	$2.20	$2.05	$2.20	$2.40	$3.40	$3.75
Cuts 20 and 30—Baseboard.....	2.30	2.40	2.30	2.40	.....	.....	.....
Cuts 30 Baseboard.....	2.75	2.95	2.75	2.95	.....	.....	.....
Cuts 20 & 30—Above Baseboards	2.05	2.20	2.05	2.20	2.40	3.40	3.75

STACK BOOTS

Cut 28—Stack Boot



Cut 38—Stack Boot

Cut 75—Stack Boot

LIST PRICES

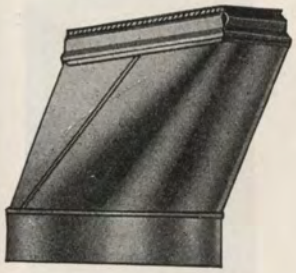
For Stack Size.....	No. 5	No. 6	No. 7	No. 8	No. 9	‡No. 11	‡No. 12
Cuts 75 and 38—each.....	$2.10	$2.35	$2.10	$2.35	$2.70	$3.50	$3.90
Cut 28.....	2.50	2.50	2.30	2.50	2.75	3.90	4.25

Items marked thus ‡ not carried in stock, but shipped direct from factory.

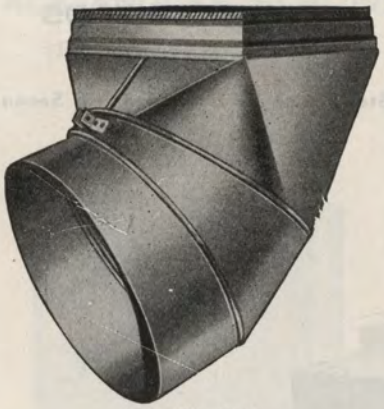
KWIK-LOK DOUBLE WALL FITTINGS

REGISTER ANGLES, ELBOWS, BOOTS AND EXTENSION PIECES

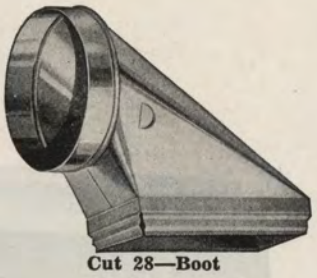
(For First Floor.)



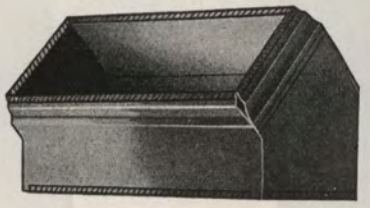
Cut 38—Boot



Cut 75—Boot



Cut 28—Boot



Cut 1—Angle

LIST PRICES OF DOUBLE FITTINGS FOR FIRST FLOOR BASEBOARD REGISTERS

One-Way Box or Head

Size of Register	Base Extension	Jones National	National	Size of Warm Air Pipe	All Double Boots	Elbows Cut 5	Angles Cut 1	8-Inch Extension
8 x 10	2¼"	853½	53½	8"	$2.30	$1.60	$1.20	$1.15
8 x 12	2¼"	852½	52½	9"	2.40	1.70	1.30	1.25
8 x 12	3¼"	852¼	52¼	9" or 10"	2.60	1.80	1.45	1.35
9 x 12	2¼"	854½	54½	9"	2.40	1.70	1.30	1.25
9 x 12	3¼"	854¼	54¼	9" or 10"	2.60	1.80	1.45	1.35
10 x 12	2¼"	855	55	10"	2.60	1.80	1.45	1.35
10 x 12	3¼"	855¼	55¼	10"	2.60	1.80	1.45	1.35
11 x 13	3¼"	856	56	12"	2.70	1.90	1.50	1.40
11 x 13	5¼"	8556	556	12" or 14"	3.10	2.50	1.80	1.55
12 x 14	3⅛"	857	57	12"	3.00	2.40	1.70	1.50
12 x 14	5¼"	8557	557	14" or 16"	3.20	2.65	2.05	1.60

Above List Prices for JONES NATIONAL REGISTER HEADS take Register Discount.

LIST PRICES OF DOUBLE FITTINGS FOR FIRST FLOOR BASEBOARD REGISTERS

Two-Way Box or Head

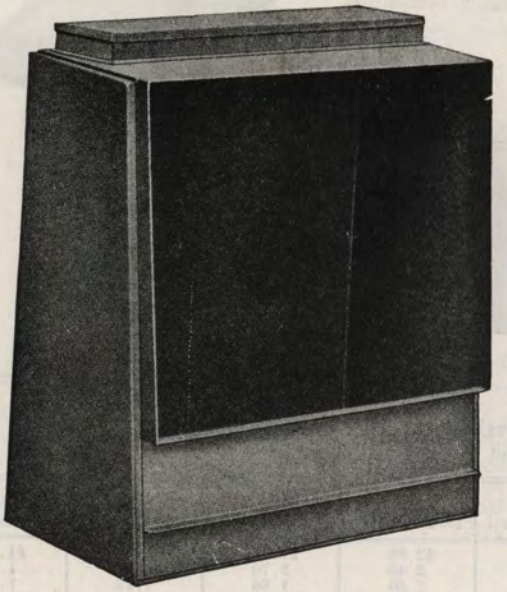
Size of Register	Base Extension	Jones National	National	Size of Warm Air Pipe	Double Boots 38-42-41-28	Elbows Cut 5	Angles Cut 1	8-Inch Extension
2- 8 x 10	2¼"	2-853½	2-53½	9"	$2.80	$1.65	$1.45	$1.35
2- 8 x 12	2¼"	2-852½	2-52½	10"	3.00	1.90	1.55	1.45
2- 8 x 12	3¼"	2-852¼	2-52¼	10" or 12"	3.20	2.05	1.70	1.55
2- 9 x 12	2¼"	2-854½	2-52½	10"	3.00	1.90	1.55	1.45
2- 9 x 12	3¼"	2-854¼	2-54¼	10" or 12"	3.20	2.05	1.70	1.55
2-10 x 12	2¼"	2-855	2-55	12"	3.00	2.05	1.55	1.45
2-10 x 12	3¼"	2-855¼	2-55¼	12"	3.20	2.05	1.70	1.55
2-11 x 13	3¼"	2-856	2-56	14"	3.40	2.15	1.80	1.65
2-11 x 13	5¼"	2-8556	2-556	14"	4.20	2.65	2.05	2.00
2-12 x 14	3⅛"	2-857	2-57	14"	4.00	2.65	2.05	2.00
2-12 x 14	5¼"	2-8557	2-8557	14" or 16"	4.40	2.90	2.40	2.10

Above Lists cover boots with Standard Size Collars. An additional charge of $0.20 net each will be made for boot collars other than regular.

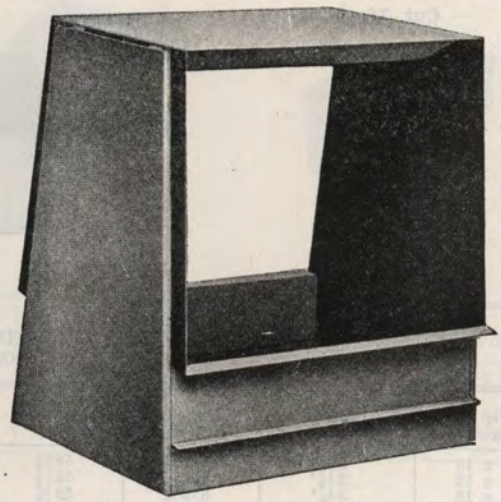
DOUBLE WALL FITTINGS

REGISTER HEADS

(To Fit First Floor Registers. When Stack is to be Extended to Second Floor specify "With Top Collar."



Cut 20—Head (One Way)



Cut 30—Head (Two Way)

LIST PRICES OF DOUBLE FITTINGS FOR FIRST FLOOR BASEBOARD REGISTERS

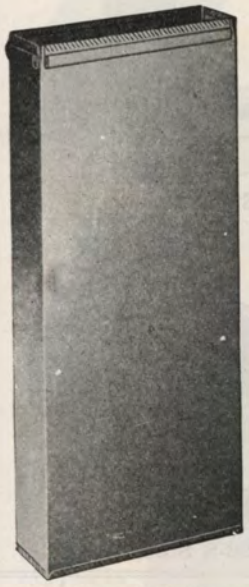
One-Way or Box Head							Two-Way Box or Head						
Size of Register	Base Ext'n	Jones Nat'l	Nat'l	Size of Warm Air Pipe	*Cut 20 Head	*Cut 20 Head With Top Collar	Size of Register	Base Ext'n	Jones Nat'l	Nat'l	Size of Warm Air Pipe	*Cut 30 Head	*Cut 30 Head With Top Collar
8 x 10	2¼"	853½	53½	8"	$2.30	$2.75	2- 8 x 10	2¼"	2-853½	2-53½	9"	$2.75	Not made
8 x 12	2¼"	852½	52½	9"	2.40	2.90	2- 8 x 12	2¼"	2-852½	2-52½	10"	2.95	Not made
8 x 12	3¼"	852¼	52¼	9" or 10"	2.65	3.20	2- 8 x 12	3¼"	2-852¼	2-52¼	10" or 12"	3.20	$3.85
9 x 12	2¼"	854½	54½	9"	2.40	2.90	2- 9 x 12	2¼"	2-854½	2-52½	10"	2.95	Not made
9 x 12	3¼"	854¼	54¼	9" or 10"	2.65	3.20	2- 9 x 12	3¼"	2-854¼	2-54¼	10" or 12"	3.20	3.85
10 x 12	2¼"	855	55	10"	2.65	3.20	2-10 x 12	2¼"	2-855	2-55	12"	2.95	3.60
10 x 12	3¼"	855¼	55¼	10"	2.65	3.20	2-10 x 12	3¼"	2-855¼	2-55¼	12"	3.20	3.85
11 x 13	3¼"	856	56	12"	2.75	3.30	2-11 x 13	3¼"	2-856	2-56	14"	3.40	4.10
11 x 13	5¼"	8556	556	12" or 14"	3.20	3.80	2-11 x 13	5¼"	2-8556	2-556	14"	3.85	4.60
12 x 14	3⅛"	857	57	12"	3.00	3.65	2-12 x 14	3⅛"	2-857	2-57	14"	3.85	4.60
12 x 14	5¼"	8557	557	14" or 16"	3.30	3.95	2-12 x 14	5¼"	2-8557	2-8557	14 or 16"	4.10	4.90

Above Lists for JONES NATIONAL REGISTER HEADS take Register Discount. Add $0.50 net for heads wider or narrower than regular

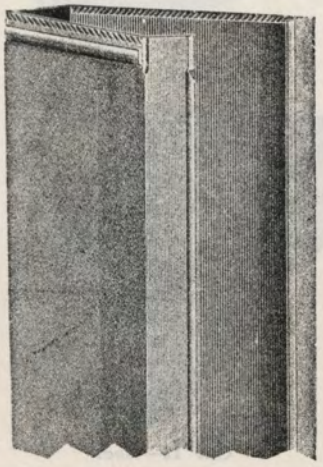
SINGLE STACK & FITTINGS

WALL STACK, STACK ANGLES, ELBOWS AND REDUCERS

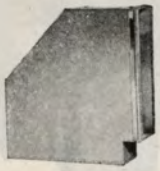
(For Runs to 2nd Floor.)



‡Section of Made-up Single Wall Pipe

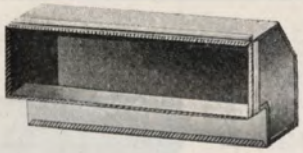


Section of Nested Single Stack

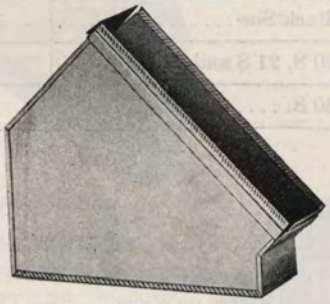


Cut 7-S—Elbow

Cut 1-S—Angle



Cut 5-S—Elbow



Cut 4-S—Angle

LIST PRICES

The letter "S" after the number signifies single wall construction.

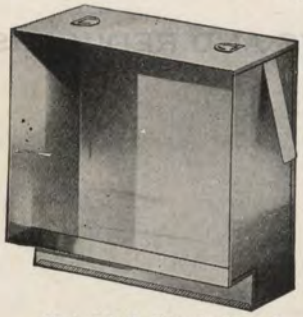
Size of Stack	3x10	‡3½x10	3x12	‡3½x12	‡3x13	‡4⅜x13	‡5x13⅝
Nested—2 ft. sections. Per ft.	.42	.42	.46	.46	.49	.54	.58
‡Made Up—5 ft. sections. Per ft.	.45	.45	.49	.49	.52	.57	.61
Cut 1-S Angles. Each	.48	.48	.52	.52	.64	.77	.90
Cut 4-S Angles. Each	.60	.60	.65	.65	.77	.96	1.10
Cut 5-S, Elbows, each	.85	.85	.95	.95	1.10	1.20	1.30
Cut 7-S, Elbows, Each	.95	.95	1.05	1.05	1.20	1.30	1.40
Cut 18S Reducers	.75	.75	.85	85	1.25	1.50	2.00

Items marked thus ‡ not carried in stock, but shipped direct from factory.

SINGLE WALL FITTINGS

STACK HEADS

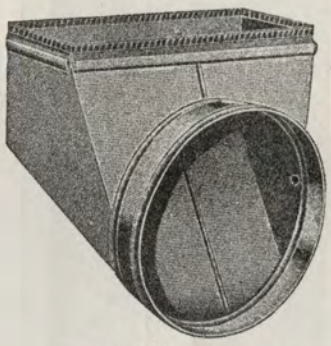
(To Fit Stack Runs to 2nd Floor.)



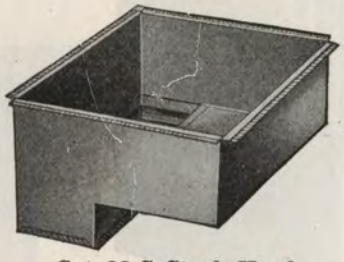
Cut 20-S Stack Head

Cut 30-S Stack Head

Cut 21-S Stack Head



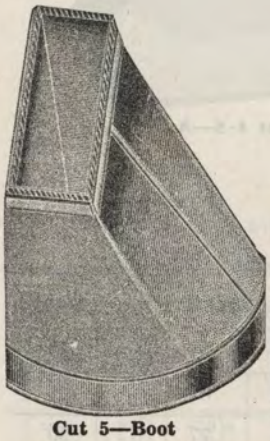
Cut 13—Boot



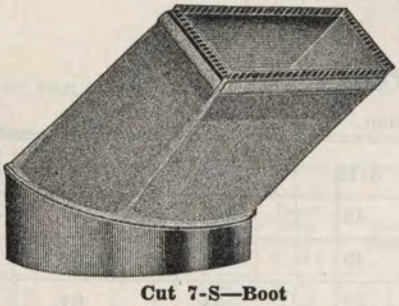
Cut 22-S Stack Head

For Stack Size.....	3x10	‡3½x10	3x12	‡3½x12	‡3x13	‡4⅜x13	‡5x13⅝
Cut 20 S, 21 S and 22 S.....	.85	.85	.95	.95	1.10	1.20	1.30
Cut 30 S.....	.95	.95	1.05	1.05	1.20	1.30	1.40

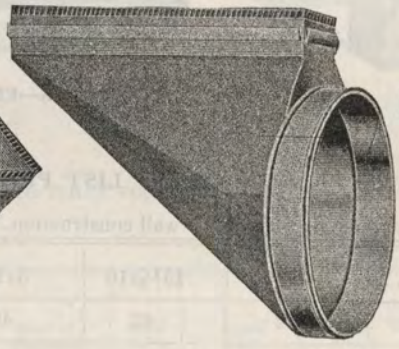
STACK BOOTS



Cut 5—Boot



Cut 7-S—Boot



Cut 17—Boot

Cut 57—Boot

For Stack Size.....	3x10	‡3½x10	3x12	‡3½x12	‡3x13	‡4⅜x13	‡5x13⅝
Cut 5, 7 and 13S Boots...	.85	.85	.95	.95	1.10	1.20	1.30
Cut 17 and 57S Boots....	.95	.95	1.05	1.05	1.20	1.30	1.40

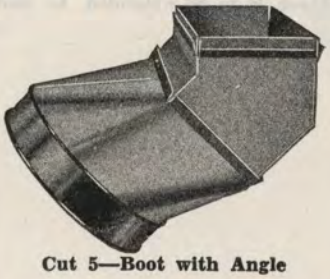
Items marked thus ‡ not carried in stock, but shipped direct from factory.

SINGLE WALL FITTINGS

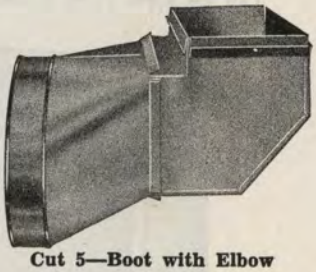
REGISTER ANGLES, ELBOWS AND BOOTS

(For First Floor.)

Cut 5—Boot



Cut 5—Boot with Angle



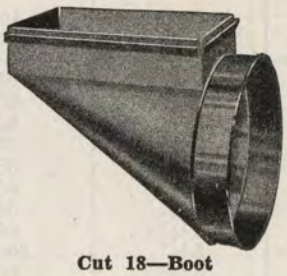
Cut 5—Boot with Elbow

Cut 7—Boot

Cut 7—Boot with Angle

Cut 7—Boot with Elbow

Cut 57—Boot with Reversible Bollar



Cut 18—Boot

LIST PRICES

OF SINGLE FITTINGS FOR FIRST FLOOR BASEBOARD REGISTERS One-Way Box or Head

Size of Reg.	Base Ext'n	Jones Nat'l	Nat'l	Size of Warm Air Pipe	All Boots	Sgle. Elbow Cut 5	Sgle. Angle Cut 1
8 x 10	2¼″	853½	53½	8″	$ .95	$ .70	$ .55
8 x 12	2¼″	852½	52½	9″	1.05	.80	.60
8 x 12	3¼″	852¼	52¼	9″ or 10″	1.15	.85	.65
9 x 12	2¼″	854½	54½	9″	1.05	.80	.60
9 x 12	3¼″	854¼	54¼	9″ or 10″	1.15	.85	.65
10 x 12	2¼″	855	55	10″	1.15	.85	.65
10 x 12	3¼″	855¼	55¼	10″	1.15	.85	.65
11 x 13	3¼″	856	56	12″	1.20	.90	.70
11 x 13	5¼″	8556	556	12″ or 14″	1.30	1.10	.85
12 x 14	3⅞″	857	57	12″	1.30	1.10	.85
12 x 14	5¼″	8557	557	12″ or 14″	1.55	1.20	.95

LIST PRICES

OF SINGLE FITTINGS FOR FIRST FLOOR BASEBOARD REGISTERS Two-Way Box or Head

Size of Reg.	Base Ext'n	Jones Nat'l	Nat'l	Size of Warm Air Pipe	All Boots	Single Elbow Cut 5	Single Angle Cut 1
2– 8x10	2¼″	2–853½	2–53½	9″	$1.20	$ .95	$ .70
2– 8x12	2¼″	2–852½	2–52½	10″	1.30	1.05	.80
2– 8x12	3¼″	2–852¼	2–52¼	10″ or 12″	1.35	1.15	.85
2– 9x12	2¼″	2–854½	2–54½	10″	1.30	1.05	.80
2– 9x12	3¼″	2–854¼	2–54¼	10″ or 12″	1.35	1.15	.85
2–10x12	2¼″	2–855	2–55	12″	1.30	1.05	.80
2–10x12	3¼″	2–855¼	2–55¼	12″	1.35	1.15	.85
2–11x13	3¼″	2–856	2–56	14″	1.45	1.20	.90
2–11x13	5¼″	2–8556	2–556	14″	1.80	1.30	1.10
2–12x14	3⅞″	2–857	2–57	14″	1.80	1.30	1.10
2–12x14	5¼″	2–8557	2–557	14″ or 16″	2.05	1.55	1.20

The Single Boots above illustrated fit NATIONAL Baseboard Registers and also JONES-NATIONAL Registers.

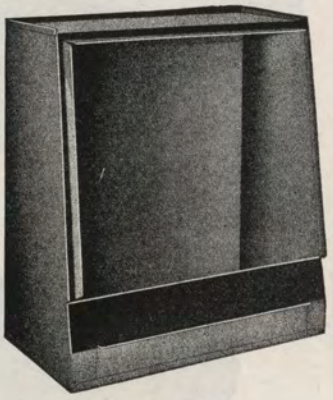
Special attention is called to the possible various uses of the Cuts 5 and 7 Boots when used with either angle or without angle or elbow.

List prices cover boots with standard size collars. Additional charge of $0.20 each for boot collars other than standard.

SINGLE WALL FITTINGS

REGISTER HEADS

(To Fit First Floor Registers. When Stack is to be extended to 2nd Floor, specify "With Top Collar."



Cut 20—Head

Cut 30—Head

LIST PRICES OF SINGLE FITTINGS FOR FIRST FLOOR BASEBOARD REGISTERS

One-Way Box or Head

Size of Register	Base Extension	Jones National	National	Size of Warm Air Pipe	Cut 20 Head Top Closed	Cut 20 Head With Top Collar
8 x 10	2¼″	853½	53½	8″	$ .85	$1.00
8 x 12	2¼″	852½	52½	9″	.95	1.10
8 x 12	3¼″	852¼	52¼	9″ or 10″	1.00	1.25
9 x 12	2¼″	854½	54½	9″	.95	1.10
9 x 12	3¼″	854¼	54¼	9″ or 10″	1.00	1.25
10 x 12	2¼″	855	55	10″	1.00	1.20
10 x 12	3¼″	855¼	55¼	10″	1.00	1.25
11 x 13	3¼″	856	56	12″	1.10	1.30
11 x 13	5¼″	8556	556	12″ or 14″	1.20	1.45
12 x 14	3⅞″	857	57	12″	1.20	1.45
12 x 14	5¼″	8557	557	12″ or 14″	1.45	1.70

LIST PRICES OF SINGLE FITTINGS FOR FIRST FLOOR BASEBOARD REGISTERS

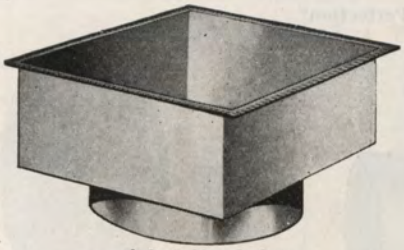
Two-Way Box or Head

Size of Register	Base Extension	Jones National	National	Size of Warm Air Pipe	Cut 30 Head	Cut 30 Head With Top Collar	Single Angle Cut 1
2- 8 x 10	2¼″	2-853½	2-53½	9″	$1.10	.....	$ .70
2- 8 x 12	2¼″	2-852½	2-52½	10″	1.20	.....	.80
2- 8 x 12	3¼″	2-852¼	2-52¼	10″ or 12″	1.25	$1.50	.85
2- 9 x 12	2¼″	2-854½	2-54½	10″	1.20	.....	.80
2- 9 x 12	3¼″	2-854¼	2-54¼	10″ or 12″	1.25	1.50	.85
2-10 x 12	2¼″	2-855	2-55	12″	1.20	.....	.80
2-10 x 12	3¼″	2-855¼	2-55¼	12″	1.25	1.50	.85
2-11 x 13	3¼″	2-856	2-56	14″	1.35	1.60	.90
2-11 x 13	5¼″	2-8556	2-556	14″	1.70	2.05	1.10
2-12 x 14	3⅞″	2-857	2-57	14″	1.70	2.05	1.10
2-12 x 14	5¼″	2-8557	2-557	14″ or 16″	1.95	2.35	1.20

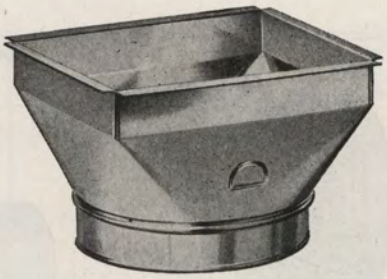
Add $0.50 net for heads wider or narrower than regular.

FLOOR REGISTER BOXES

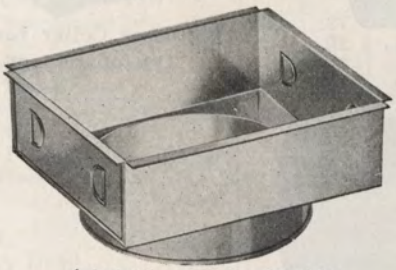
(For First Floor.)



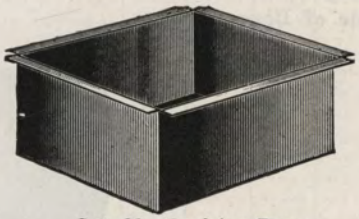
‡Cut 40—Galv.



Cut 50S



‡Cut 70—Box Double Tin



Cut 32—Register Box

Register Size	Collar	Cut 70 Double	Cut 32-40-50 I. C.	Cut 32-40-50 I. X.	Cut 40 Galvanized
8x10	8 in.	$1.08	$0.72		
8x12	8 in.	1.16	.77		
9x12	9 in.	1.29	.86		
10x12	10 in.	1.44	.96	$1.08	
10x14	10 in.	1.60	1.05	1.20	
12x14	12 in.	1.73	1.15	1.45	$1.80
12x15	12 in.	1.80	1.20	1.45	1.80
14x16	14 in.	2.88		1.92	2.15
14x18	14 in.	3.24		2.16	2.40
16x18	16 in.	4.00		2.65	3.00
16x20	16 in.	4.50		3.00	3.10
16x24	16 in.				3.60
18x24	18 in.				4.30
20x24	20 in.				4.80
20x26	20 in.				5.40
22x28	22 in.				6.00
24x30	24 in.				7.30
30x30	28 in.				8.40
30x36	30 in.				9.60
36x36	34 in.				12.00

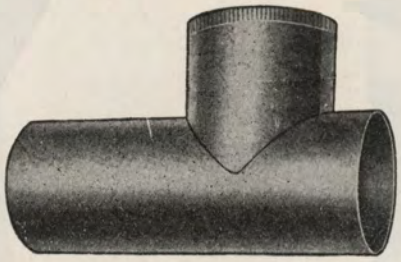
Items marked thus ‡ not carried in stock, but shipped direct from factory.

ROUND PIPE ELBOWS

GALVANIZED

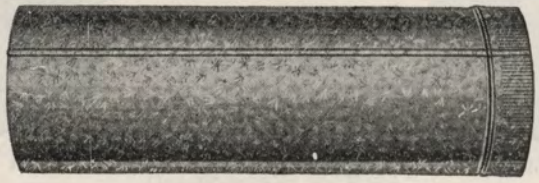
"The Quality Pipe of Mechanical Perfection"

Casing Collar for Side of Bonnet



Smoke Tee

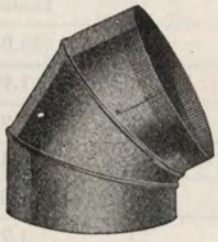
Casing Collar for Top of Bonnet



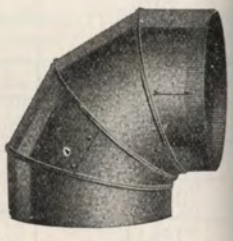
Smoke Pipe

2-piece Galvanized Iron Adjustable Elbow 30°

2-piece Galvanized Iron Adjustable Elbow 45°

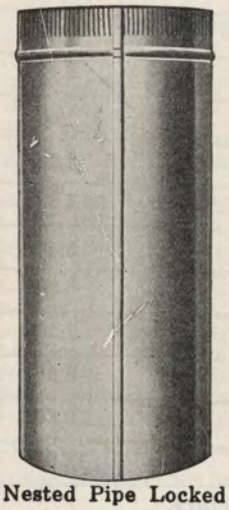


3-piece Galvanized Iron Adjustable Elbow 60°



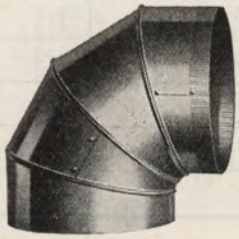
4-piece Galvanized Iron Adjustable Elbow 90°

TIN WARM AIR PIPE AND ADJUSTABLE ELBOWS

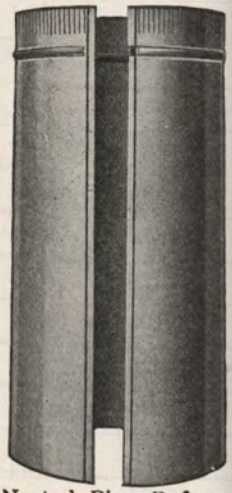


Nested Pipe Locked

Nested Tin Pipe is manufactured in sizes ranging from 8 inches to 20 inches. 8-inch, 9-inch, 10-inch and 12-inch being packed in cartons containing 50 feet. Larger sizes packed 30 feet to the package.



4 Piece Adjustable Elbow 90°



Nested Pipe Before Being Locked

FURNACE PIPE & FITTINGS
ROUND

	5 or 6 inch	7 inch	8 inch	9 inch	10 inch	12 inch	14 inch	16 inch	18 inch	20 inch	22 inch	24 inch	26 inch	28 inch	30 inch
I. C. TIN PIPE															
Nested Per Foot	.29	.30	.33	.37	.42	.51									
Made Up Per Foot	.32	.33	.36	.40	.45	.51									
I. X. TIN PIPE															
Nested Per Foot	.....	.36	.40	.45	.50	.60	.78	.90	.....	.....	.....	.....	.....	.....	.....
Made Up Per Foot	.....	.39	.43	.48	.53	.63	.81	.93	.....	.....	.....	.....	.....	.....	.....
ADJUSTABLE TIN															
I. C. Two Piece Angles 30°	.25	.27	.30	.35	.40	.55	.....	.....	.....	.....	.....	.....	.....	.....	.....
I. C. Two Piece Angles 45°	.28	.32	.35	.40	.45	.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
I. C. Three Piece Elbows 60°	.35	.40	.45	.50	.58	.80	.....	.....	.....	.....	.....	.....	.....	.....	.....
I. C. Four Pieee Elbows 90°	.45	.50	.55	.60	.70	1.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
I. X. Two Piece Angles 30°	.....	.....	.40	.45	.50	.65	.95	1.40	.....	.....	.....	.....	.....	.....	.....
I. X. Two Piece Angles 45°	.....	.....	.46	.52	.58	.75	1.10	1.60	.....	.....	.....	.....	.....	.....	.....
I. X. Three Piece Elbows 60°	.....	.....	.56	.63	.73	1.00	1.40	2.00	.....	.....	.....	.....	.....	.....	.....
I. X. Four Piece Elbows 90°	.....	.....	.65	.72	.85	1.25	1.70	2.40	.....	.....	.....	.....	.....	.....	.....
Y Joint I. C.	.....	.....	.....	.....	2.60	3.40	5.00	6.00	8.00	10.00	.....	.....	.....	.....	.....
Y Joint I. X.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
					Prices on Application										
C. C. for Top Hood	.....	.20	.24	.28	.30	.36	.46	.60	.....	.....	.....	.....	.....	.....	.....
C. C. for Side Hood	.....	.40	.40	.46	.50	.60	.74	1.00	.....	.....	.....	.....	.....	.....	.....
Sets of Elbows, Ang., Col., Damp.	.....	1.40	1.70	1.96	2.20	3.20	4.39	5.05	.....	.....	.....	.....	.....	.....	.....
GALV. GOODS NO. 26 GA.															
Pipe Per Foot Nested	.36	.39	.43	.47	.52	.62	70	.80	.95	1.10	1.35	1.60	1.85	2.10	2.35
Two Piece Angles 30°	.42	.52	.56	.66	.76	.96	1.10	1.35	1.65	1.80	2.00	2.30	2.60	3.00	3.50
Two Piece Angles 45°	.45	.57	.62	.72	.87	1.07	1.20	1.50	1.85	2.35	2.60	3.00	3.40	3.95	4.55
Three Piece Elbows 60	.50	.68	78	.88	1 03	1 33	1.65	2 00	2.50	2 90	3.20	3.70	4.20	4 90	5.60
Four Piece Elbows 90°	.60	.82	.94	1.06	1.20	1.60	2.10	2.70	3.30	3.80	4.40	5.20	6.00	7.00	8.00
Y Joints					Prices on Application										
T Joints	1.10	1.10	1.30	1.50	1.90	2.60	.....	.....	.....	.....	.....	.....	.....	.....	.....
GALV. GOODS NO. 24 GA.															
Pipe Per Foot Nested	.45	.48	.52	.59	.64	.80	.....	.....	.....	.....	.....	.....	.....	.....	.....
Two Piece Angles 30°	.48	.61	.66	.76	.91	1.16	.....	.....	.....	.....	.....	.....	.....	.....	.....
Two Piece Angles 45°	.50	.67	.77	.87	1.07	1.37	.....	.....	.....	.....	.....	.....	.....	.....	.....
Three Piece Elbows 60°	.60	.70	.80	.95	1.25	1.55	.....	.....	.....	.....	.....	.....	.....	.....	.....
Four Piece Elbows 90°	.80	1.00	1.10	1.30	1.50	1.90	.....	.....	.....	.....	.....	.....	.....	.....	.....
T Joints	1.45	1.45	1.75	2.20	2.60	3.40	.....	.....	.....	.....	.....	.....	.....	.....	.....

SINGLE ROUND PIPE AND ELBOWS

Weights in Pounds per 100 Pieces—Elbows or 100 feet pipe

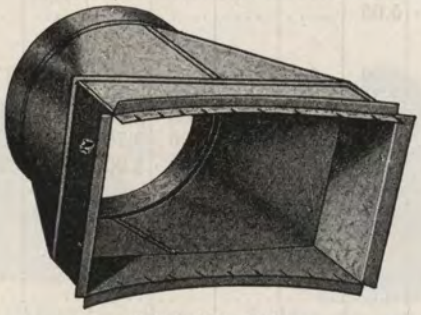
These Weights are for the Material only and Do Not Include Castings

	7 inch	8 inch	9 inch	10 inch	12 inch	14 inch	16 inch	18 inch	20 inch	22 inch	24 inch	26 inch	28 inch	30 inch
I. C. Nested Pipe	95	103	112	122	155	...	...	...	...	...	...	...	...	...
I. C. Elbows, 4-pc., 90°	95	110	135	160	...	...	...	...	...	...	...	...	...	...
I. X. Nested Pipe	125	135	158	175	200	235	315	...	...	...	...	...	...	...
I. X. Elbows, 4-pc., 90°	120	150	175	210	250	385	490	...	...	...	...	...	...	...
No. 26 Gauge Galv. Pipe	170	200	230	250	300	335	365	425	460	520	550	625	650	745
No. 26 Ga. Galv. Elbows, 4-pc.	185	225	270	300	400	525	725	875	920	1250	1350	1575	1850	2025
No. 24 Ga. Galv. Smoke Pipe	225	250	275	300	350	450	...	...	...	...	...	...	...	...
No. 24 Gauge Galv. Smoke Elbow, 4-pc.	225	270	350	420	500	785	...	...	...	...	...	...	...	...

COLD AIR SHOES, ETC.

GALVANIZED COLD AIR SHOES

Cut 108—With Adjustable Collar



‡Cut 102—Shoe

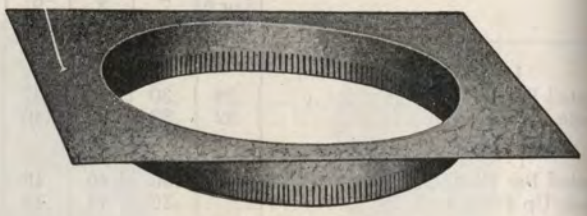
LIST PRICES
OF GALVANIZED COLD-AIR SHOES

Size of Square End	Size of Collar in inches	Round Pipe Area Sq. Ins.	Shoe Cut 108	Shoe Cut 102
12 x 18	14	154	$ 4.85	$ 4.85
12 x 22	16	201	5.30	5.30
12 x 24	18	254	6.15	6.15
14 x 26	20	314	7.00	7.00
14 x 30	22	380	8.00	8.00
14 x 36	24	452	9.00	9.00
14 x 44	26	531	10.00	10.00
14 x 50	28	616	11.00	11.00
15 x 56	30	707	13.00	13.00

When ordering give cut number, diameter of casing and size of collar wanted.

Items marked thus ‡ not carried in stock, but shipped direct from factory.

CEILING PLATES



LIST PRICES

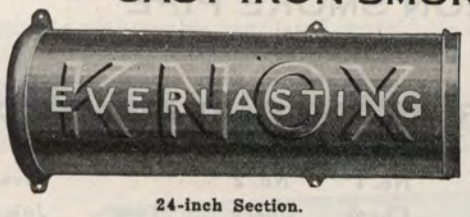
Collar	Cut 207 Top Size	Cut 207 List
14″	16 x 33″	$1.90
16″	18 x 33″	2.05
18″	20 x 33″	2.20
20″	22 x 33″	2.35
22″	24 x 33″	2.56
24″	26 x 33″	2.86
26″	28 x 33″	3.16
28″	30 x 33″	3.46
30″	32 x 33″	3.76

DRAW BANDS

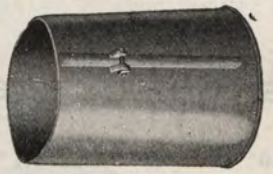
6-inch—Each	$0.40
7-inch—Each	.42
8-inch—Each	.46
9-inch—Each	.50
10-inch—Each	.55
12-inch—Each	.63
14-inch—Each	.73
16-inch—Each	.83
18-inch—Each	.98
20-inch—Each	1.13
22-inch—Each	1.38
24-inch—Each	1.63
26-inch—Each	1.88
28-inch—Each	2.13
30-inch—Each	2.38

CAST IRON SMOKE PIPES

12-inch Section.



24-inch Section.


Oval Joint.

12 to 10 Reducer.

45° Elbow.

Cap to Close End of Tee.

Special Oval. Collar.

90° Elbow.

Pipe Extension.

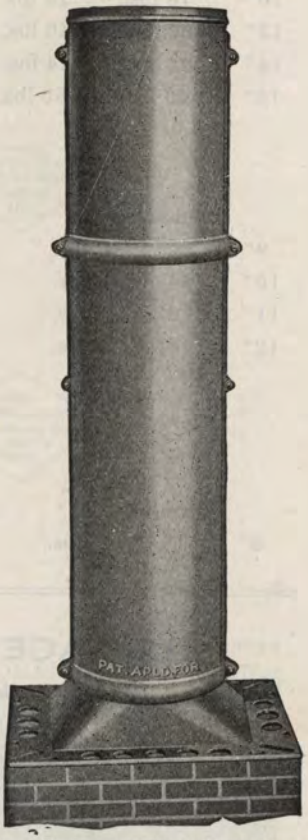
No. 1 Tee.

Slip Joint.

No. 2 Check Draft.

6-inch Section.

Bushing.



No. 3 Tee.

No. 2 Tee

Reducer.

No. 1 Check Draft with 1 ft. of Pipe.

Knox Everlasting Cast Iron Smoke Pipe is made in sections, to be bolted together as indicated below. It is cast in half sections so that it can be tighened to fit openings. The sections are interchangeable to fit each other, and nest closely for shipping.

Sizes Inches	Pipe per 6 inches	Pipe Per foot	ELBOWS			CHECK DRAFT		Smoke Tee and Oval Joint	Slip Joints	Reducers and Bushings	Caps to Close End of Tee	Pipe Extension
			90°	45°	22½°	No. 1, ft. P.	No. 2					
6	.90	$1.50	$1.75	$1.00				.75	$1.00			
8	1.18	2.35	2.75	1.85		$4.15	$2.00	$2.75	1.25	Reducers, 9 to 8—$1.20	$0.75	$0.65
9	1.38	2.75	3.15	2.10		4.55	2.40	3.15	1.50	Reducers, 10 to 9—$1.40	.90	.75
10	1.58	3.15	3.60	2.50		4.75	2.85	3.75	1.75	Reducers, 11 to 10—$1.60	1.10	.90
12	2.08	4.15	9.00	4.50	2.25	6.00	3.25	6.50	2.25	Reducers, 12 to 10—$2.00	1.30	1.15
14	2.50	5.00			3.25			12.00	3.25	Bushings, 8 to 7—70c	1.60	1.30
16	2.93	5.85			3.75			14.50	4.25		2.00	1.60

Used very extensively for flue lining. When to be used for this purpose please so indicate and brass bolts will be supplied in place of iron. **For weight see page 744.** (Crating Charged Extra at Cost.)

CAST IRON SMOKE PIPE

WEIGHTS OF KNOX EVERLASTING CAST IRON SMOKE PIPE

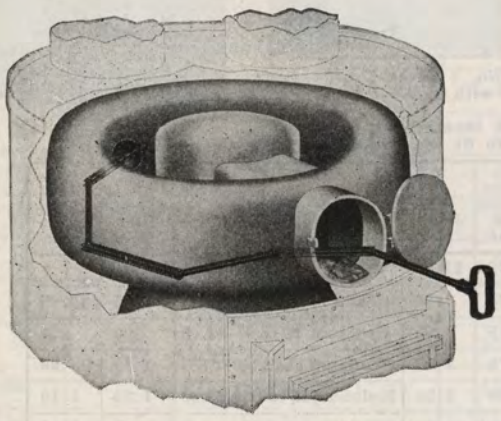
Size	Weight Per Ft.	90° Ells	45° Ells	22½° Ells	No. 1 Check	No. 2 Check	Tees	Oval Joints	Oval Collars	Slip Joints
6"	8 lbs.	8 lbs.	5 lbs.	6 lbs.	16 lbs.	8 lbs.	16 lbs.	15 lbs.	3 lbs.	5 lbs.
8"	14 lbs.	14 lbs.	9 lbs.	8 lbs.	17 lbs.	10½ lbs.	16 lbs.	17 lbs.	4 lbs.	9 lbs.
9"	16 lbs.	15 lbs.	11 lbs.	9 lbs.	18 lbs.	12 lbs.	22 lbs.	18 lbs.	5 lbs.	10 lbs.
10"	18 lbs.	19 lbs.	13 lbs.	10 lbs.	25 lbs.	15 lbs.	35 lbs.		5 lbs.	10 lbs.
12"	22 lbs.	40 lbs.		14 lbs.	50 lbs.		53 lbs.		7 lbs.	11 lbs.
14"	32 lbs.	44 lbs.		18 lbs.					8 lbs.	17 lbs.
16"	40 lbs.	50 lbs.					70 lbs.			19 lbs.

Reducers		Laundry Stove Collars		Caps to Close Tees		Inside and Outside Bands	
9" to 8"	4 lbs.	9" to 6"	3½ lbs.	8"	2¼ lbs.	3	lbs.
10" to 9"	6 lbs.	10" to 6"	3 lbs.	9"	2¼ lbs.	3	lbs.
11" to 10"	7 lbs.	12" to 8"	5 lbs.	10"	3¼ lbs.	4	lbs.
12" to 10"	8 lbs.			12"	5 lbs.	4½	lbs.
				14"	5 lbs.	6	lbs.
				16"	7 lbs.	7	lbs.

Bushings	
8" to 7"	3 lbs.

FURNACE CLEANERS

Skuttle.



Soot is an insulator against heat. It is the enemy of efficient radiation. Goverment investigations during the war showed that one-sixteenth inch of soot means a loss of 26.2% of heat radiation.

Nineteen out of twenty furnaces are built with hea radiators, commonly known as the horseshoe, type, simi lar to the illustration shown here. These radiator rapidly fill with soot, and when it is not removed, furnac radiation is cut down materially.

The Skuttle Radiator Cleaner is a handy room too that makes it possible for the user to clean out th radiator of his furnace just as regularly as he takes ou the ashes. It makes the radiator 100% efficient for heat ing and effects a big saving on fuel bills, because h gets more heat from less coal. This cleaner reache more than half way around the radiator either way so that you can reach soot farthest away from the clean out door It telescopes or folds for long or short lengths The handle is rigid when unfolded, and it is easy to hol the scraper above the soot while reaching back to th farthermost part of the radiator.

"THE COST OF SOOT IN YOUR FURNACE"

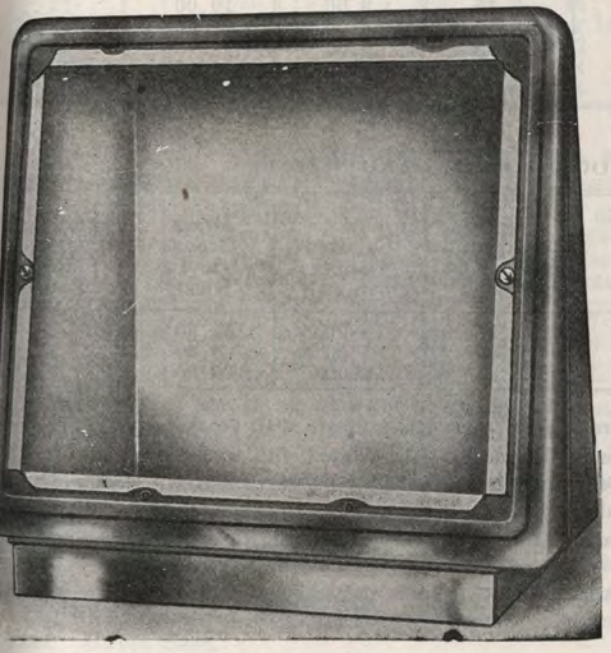
Soot	Heat Loss	Loss per ton of $10 Coa
1-32 inch	9.8%	$0.9
1-16 inch	26.2%	2.6
1-8 inch	45.2%	4.5
3-16 inch	62.0%	6.2

‡**Skuttle**—Length, 60 inches; weight, each, 3½ pounds Each $3.5

JONES-NATIONAL REGISTERS

Furnished complete with double ventilated boxes. No leakage between register and box.

DIAMOND DESIGN
NATIONAL REGISTER
DIAMOND QUALITY
PERFECT OPERATING LEVER
No Adjusting Necessary
Can Be Operated by Hand or Foot
Face of Register Can Be Removed for Cleaning Inside of Register. This Appeals to the Housewife
BARS OF REGISTER FACE ARE Deeply Embossed, Giving Maximum Strength and Beauty
LARGEST FREE AIR SPACE RESULT OF DEEPLY EMBOSSED BARS
AN ORNAMENT TO ANY HOME in Which the National Register is Installed
DEEP EXTENSION of FRAME Insures Adequate Warm Air Supply to Register
PREVENTS DISCOLORATION OF WALLS



Register is attached to box by bending a flexible tin flange over the frame of JONES-NATIONAL REGISTER, after first drawing the frame of register tight to box by a bolt on each side of frame, as shown in illustration at left.

The connection, thus made, is streak-proof in every particular. The tin flange is light and easly bent over and laid in place over register frame. No hammer or tools necessary.

JONES-NATIONAL REGISTERS

"The Quality Pipe of Mechanical Perfection"

Baseboard

(One Way)

First Floor Style

Second Floor Style

LIST PRICES OF FIRST FLOOR SINGLE HEAD SIZES

Catalog Number	Size of Register Face in Inches	Base Extension from Plaster in Inches	Size of Basement Pipe in Inches	Black Japan	White Japan and Lacquered Bronze	Oxidized Copper	Plated Brass Bronze, Nickel	Gross Wght. Packed for Shipping, Pounds
853½	10 x 8	2¼	8	$4.00	$4.50	$5.50	$6.00	8
852¼	12 x 8	3¼	9 or 10	5.50	6.00	7.00	7.40	8½
854½	12 x 9	2¼	9	5.25	5.75	6.75	7.25	10
854¼	12 x 9	3¼	9 or 10	5.75	6.25	7.25	7.65	10½
855	12 x 10	2⅜	10	6.25	6.75	8.00	8.50	10½
856	13 x 11	3¼	12	7.00	7.75	9.00	10.00	12
857	14 x 12	3⅞	12 or 14	8.50	9.50	10.50	11.50	13
855¼	12 x 10	3¼	10	6.50	7.00	8.00	8.75	11
8556	13 x 11	5¼	12 or 14	8.00	8.75	10.00	11.00	12
8557	14 x 12	5¼	14 or 16	9.00	10.00	11.00	12.00	13

LIST PRICES OF SECOND FLOOR SINGLE HEAD SIZES

Catalog Number	Size of Register Face in Inches	Base Extension from Wall in Inches	Size of Single Wall Stack in Inches	Black Japan	White Japan and Lacquered Bronze	Oxidized Copper	Brass, Bronze and Nickel	Gross Wght. Packed for Shipping, Pounds
853	10 x 8	1⅛	No. 7	$3.50	$4.20	$5.00	$5.50	8
852	12 x 8	1⅛	No. 8	4.00	4.80	5.50	6.00	9
854	12 x 9	1⅛	No. 9	4.50	5.25	6.00	6.50	9½

Above list prices include register and boxes that fit standard sizes of Double and Single Wall Stack.

All First Floor Jones-National Register boxes, excepting Nos. 853½ and 854½, are fitted with wall stack collars and are shipped with these closed with top plates which can be easily removed.

Sizes Nos. 853½ and 854½ have no top collar unless specially ordered with top collar.

The center of the Jones-National Register is removable by a half turn of button, which releases engaging lugs at bottom of center.

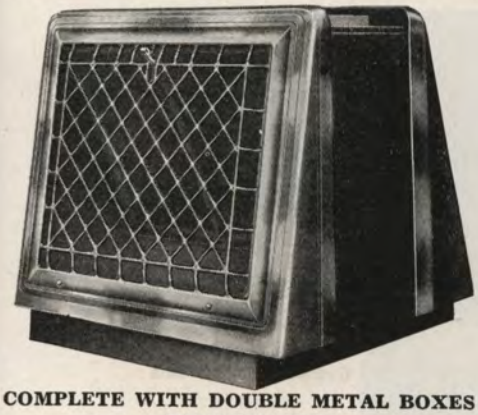
Each JONES-NATIONAL REGISTER is shipped INDIVIDUALLY PACKED in a heavy corrugated Container. Easy to stock. Always clean.

JONES-NATIONAL REGISTERS

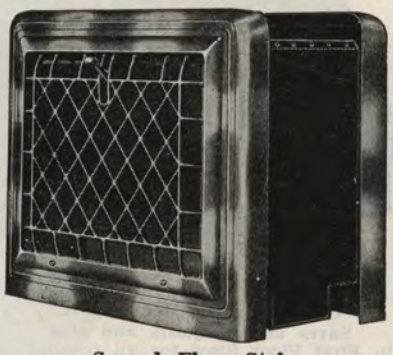
Base Board

(Two Way)

Require Less Labor—Properly Installed Do Not Soil Walls



COMPLETE WITH DOUBLE METAL BOXES
First Floor Style



Second Floor Style

LIST PRICES OF FIRST FLOOR DOUBLE HEAD SIZES

Catalog Number	Size of Register Face in Inches	Base Extension from Plaster in Inches	Size of Basement Pipe in Inches	Black Japan	White Japan or Lacquered Bronze,	Oxidized Copper	Plated Brass Bronze, Nickel	Gross Weight Packed for Shipping, Pounds
2-852¼	2-12 x 8	3¼	10 or 12	$ 8.40	$ 9.40	$11.40	$12.25	13
2-853½	2-10 x 8	2¼	9	6.50	7.50	9.50	10.50	12½
2-854½	2-12 x 9	2¼	10	8.50	9.50	11.50	12.50	14
2-854¼	2 12 x 9	3¼	10 or 12	9.40	10.40	12.40	13.20	15
2-855	2-12 x 10	2⅜	12	10.00	11.00	13.00	14.00	16½
2-856	2-13 x 11	3¼	14	11.50	13.00	15.50	17.00	18
2-857	2-14 x 12	3⅞	14 or 16	14.50	16.50	18.50	20.00	19
2-855¼	2-12 x 10	3¼	12	10.50	12.00	14.00	15.00	16
2-8556	2-13 x 11	5¼	14	14.00	15.00	17.00	18.00	18½
2-8557	2-14 x 12	5¼	16	16.00	17.00	19.00	20.00	19½

LIST PRICES OF SECOND FLOOR DOUBLE HEAD SIZES

Catalog Number	Size of Register Face in Inches	Base Extension from Wall in Inches	Size of Single Wall Stack in Inches	Black Japan	White Japan or Lacqnered Bronze	Oxidized Copper	Brass, Bronze and Nickel	Gross Wt. Packed for Shipping, Pounds
2-853	2-10 x 8	1⅛	No. 7	$5.75	$6.50	$8.50	$9.50	10½
2-852	2-12 x 8	1⅛	No. 8	6.50	7.50	9.50	10.50	12½
2-854	2-12 x 9	1⅛	No. 9	7.00	8.00	10.00	11.00	13

All First Floor JONES-NATIONAL REGISTERS, excepting 2-854½, are fitted with Wall Stack Collars and are shipped with these collars with top plates which can be easily removed. Size 2-854½ has no top collar unless specially ordered with top collar.

The Center of the JONES-NATIONAL REGISTER is removable by a half turn of a button, which releases engaging lugs at bottom of center.

Special boxes for JONES-NATIONAL REGISTERS for partitions wider or narrower than Regular take an Extra $2.00 list. Give extreme outside to outside width of partitions in such cases.

Two-way Jones-National Registers can be furnished with a different finish on each side.

Each JONES-NATIONAL REGISTER is shipped INDIVIDUALLY PACKED in a Heavy Corrugated Container. Easy to stock. Always clean.

JONES-NATIONAL REGISTERS

"SPECIAL" BASEBOARD

Furnished only Complete with Double Metal Boxes
REQUIRE NO PARTITION SPACES

Can be installed in old houses as easily as floor registers, without cutting joists, sills, studding or lath and plaster.

FIRST FLOOR
Complete with Double Box
Saves cutting joists and sills

SECOND FLOOR
Complete With Box

Made in First Floor Sizes for all popular sizes of basement pipe.

JONES-NATIONAL SPECIAL REGISTERS take same corresponding sizes of boots, elbows and angles as JONES-NATIONAL REGISTERS.

JONES-NATIONAL "SPECIALS" are installed in the same manner as first floor. Adapted for use in old buildings where wall stacks must be set outside of wall instead of inside.

LIST PRICES OF FIRST FLOOR JONES-NATIONAL "SPECIALS"

Catalog Number	Size of Register Face in Inches	Size of Basement Pipe in Inches	Size of Boot in Inches	Black Japan	White Japan or Lacquered Bronze	Oxidized Copper	Brass Bronze or Nickel	Gross Weight Packed for Shipping
753½	10 x 8	8	6⅛ x 10⅝	$ 5.50	$ 6.00	$ 7.00	$ 7.50	8
754½	12 x 9	9	6¼ x 12⅝	6.75	7.25	8.25	8.75	10
755	12 x 10	10	6⅜ x 12⅝	7.75	8.25	9.50	10.00	11
756	13 x 11	12	7 x 13⅝	8.50	9.25	10.50	11.50	12
757	14 x 12	12 or 14	7⅝ x 14⅝	10.00	11.00	12.00	13.00	13

LIST PRICES SECOND FLOOR JONES-NATIONAL "SPECIALS" COMPLETE WITH BOXES

Catalog Number	Size of Register Face in Inches	Size of Single Wall Stack	Size of Double Wall Stack	Black Japan	White Japan or Lacquered Bronze	Oxidized Copper	Brass Bronze or Nickel	Gross Wt. in pounds Packed for Shipping
753	10 x 8	3 x 10 or 3½ x 10	No. 7	$5.00	$5.50	$6.50	$7.00	8
752	12 x 8	3 x 12 or 3½ x 12	No. 8	5.50	6.25	7.00	7.75	10
754	12 x 9	3 x 13 or 3½ x 13	No. 9	6.00	6.75	7.50	8.00	10½

Above Second Floor JONES-NATIONAL SPECIAL REGISTERS are packed INDIVIDUALLY.

LIST PRICES OF JONES-NATIONAL SPECIAL REGISTERS WITHOUT BOXES

Catalog Number	Size of Register Face in Inches		Black Japan	White Japan or Lacquered Bronze	Oxidized Copper	Brass Bronze or Nickel
753½	10 x 8	FIRST FLOOR	$3.40	$3.90	$4.90	$5.40
754½	12 x 9		4.55	5.05	6.05	6.55
755	12 x 10		5.35	5.85	7.10	7.60
756	13 x 11		6.00	6.75	8.00	9.00
757	14 x 12		7.20	8.20	9.20	10.20
		SECOND FLOOR				
753	10 x 8		3.15	3.75	4.65	5.25
752	12 x 8		3.50	4.25	5.00	5.75
754	12 x 9		3.80	4.55	5.30	5.80

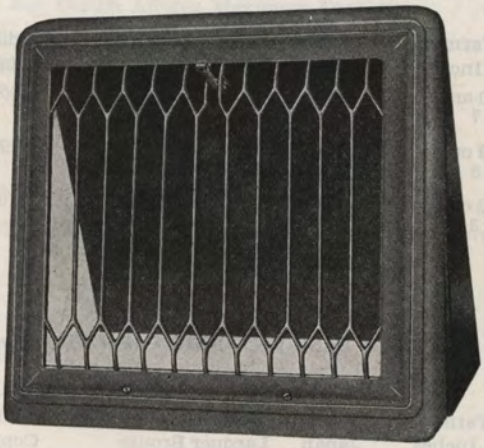
For "Two-Inch" Studding or "Flat-Stud" Partitions we offer the JONES-NATIONAL FLAT-STUD REGISTER, which takes same list as Jones-National Special Register.

BASEBOARD REGISTERS

PANAMA

A NEW DESIGN MADE OF PRESSED COLD ROLLED STEEL

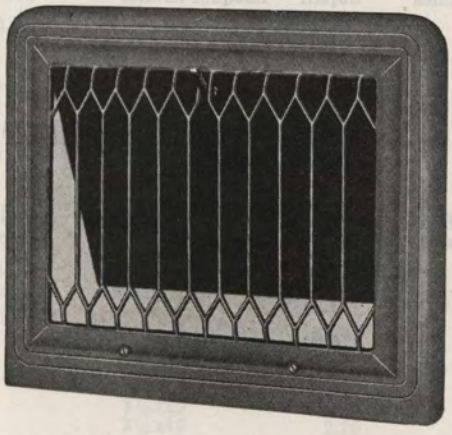
Deeply Embossed Narrow Parallel Bar Design Affords Maximum Capacity



First Floor Style

As a Departure in Register Design we offer the Panama Register which has a free Air Capacity exceeded by none, yet very pleasing in appearance—an accomplishment of Beautified Simplicity and Full Capacity.

PANAMA REGISTER is made of two parts—a register and a border or frame. The frame fits against the plastered wall and the register box passes through the opening and turns over similarly to a floor register box in a floor border. The center, or register proper, fits over the opening of box by means of two lugs at the top and one or two lugs at the bottom, making a neat finish, as shown in the illustration. We guarantee Panama Registers against breakage. The lugs at bottom release or fasten center to frame by a half turn.



Second Floor Style and Base Extension

Second Floor PANAMA REGISTERS are attached to Register Box by Flanging Box over frame to make a Sealed-Tight connection to Prevent Streaked Walls—Same as First Floor. PANAMA REGISTERS offer maximum Beauty, Capacity and Neatness in Design. Neat Round Corners and Graceful in every Detail.

To prevent mistakes when ordering, use catalog number.

Register bottom sets level with finished floor; bottom flange of box should set two inches higher.

Compare the Low Lists and Consider Quality.

BASEBOARD REGISTERS

PANAMA

1⅛-INCH BASE EXTENSION (For Second Floor)

	Size of Face in Inches	Size of Warm Air Pipe In Inches	Black Japan	White Japan or Lacquer Bronze	Oxidized Copper	Brass, Bronze or Nickel	Qty. in Ship. Case	Gross Wt. Per Register in Lbs.
No. 953	10x8	3½x10 or No. 7	$2.00	$2.35	$3.50	$3.85	25	3
No. 952	12x8	3½x12 or No. 8	2.40	2.90	3.95	4 35	25	3½
No. 954	12x9	3½x12 or No. 8	2.50	3.00	4.00	4.40	25	3½

2¼-INCH BASE EXTENSION (For First Floor)

	Size of Face in Inches	Size of Warm Air Pipe In Inches	Black Japan	White Japan or Lacquer Bronze	Oxidized Copper	Brass, Bronze or Nickel	Qty. in Ship. Case	Gross Wt. Per Register in Lbs.
No. 953½	10x8	8	$2.00	$2.35	$3.50	$3.85	25	3½
No. 952½	12x8	8 or 9	2.40	2.90	3.95	4.35	25	3½
No. 954½	12x9	9	3.00	3.50	4.50	4.90	25	3½

2⅜-INCH BASE EXTENSION (For First Floor)

	Size of Face in Inches	Size of Warm Air Pipe In Inches	Black Japan	White Japan or Lacquer Bronze	Oxidized Copper	Brass, Bronze or Nickel	Qty. in Ship. Case	Gross Wt. Per Register in Lbs.
No. 955	12x10	10	$3.75	$4.35	$5.50	$6.10	25	4

3¼-INCH EXTENSION (For First Floor)

	Size of Face in Inches	Size of Warm Air Pipe In Inches	Black Japan	White Japan or Lacquer Bronze	Oxidized Copper	Brass, Bronze or Nickel	Qty. in Ship. Case	Gross Wt. Per Register in Lbs.
No. 952¼	12x8	9	$3.00	$3.50	$4.50	$4.90	25	3½
No. 954¼	12x9	9 or 10	3.25	3.75	4.75	5.15	25	3½
No. 955¼	12x10	10	4.00	4.60	5.75	6.35	25	4½
No. 956	13x11	12	4.50	5.25	6.75	7.50	25	4½

5¼-INCH BASE EXTENSION (For First Floor)

	Size of Face in Inches	Size of Warm Air Pipe In Inches	Black Japan	White Japan	Oxidized Copper	Brass, Bronze or Nickel	Qty. in Ship. Case	Gross Wt. Per Register in Lbs.
No. 9556	13x11	12 or 14	$5.25	$6.00	$7.50	$8.25	20	4½
No. 9557	14x12	14 or 16	6.50	7.50	8.50	9.50	20	5½

CONVEX REGISTERS

PANAMA

MADE OF EXTRA HEAVY COLD ROLLED STEEL
A NEW DESIGN MADE OF PRESSED COLD ROLLED STEEL

The Deeply Embossed Narrow Parallel Bar Design Affords Maximum Capacity.

Therefore in this new Design we offer in the Panama Convex Register a Free Air Capacity. Exceeded by none, yet very pleasing in Design—An Achievement of Beautified Simplicity and Full Capacity.

To be Placed Above Baseboard In The Side Wall.

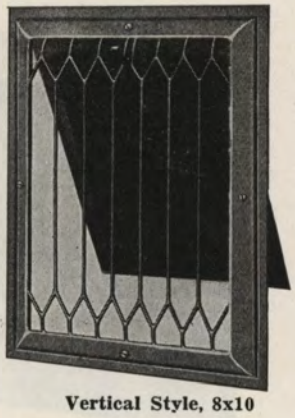
Panama Convex Registers are made either Horizontal or Vertical.

The first figure given in numbering denotes the width of the register; the last figure denotes the height.

For example:—

8x10—Vertical

10x8—Horizontal



Vertical Style, 8x10

Horizontal Style, 10x8

Panama Convex Registers are guaranteed against breakage.

Fit all standard makes of Stack Heads.

Each Register when shipped is wrapped in Heavy Kraft Paper and packed in wood shipping cases.

LIST PRICES, ETC., OF PANAMA CONVEX REGISTERS

Size of Opening in Inches	Fits Register Box in. wide	in. high	Quantity in Shipping Case	Wallpipe ins.	Black Japan	White Japan or Lacquered Bronze	Electro-plated Ox. Copper	Electroplated Brass, Bronze or Nickel
8x10	8	10	50	3½x10	$1.65	$2.00	$3.15	$3.85
10x8	10	8	50	3½x10	1.65	2.00	3.15	3.85
8x12	8	12	50	3½x12	1.90	2.30	3.65	4.40
12x8	12	8	50	3½x12	1.90	2.30	3.65	4.40
9x12	9	12	50	3½x12	2.10	2.55	4.00	5.10
12x9	12	9	50	3½x12	2.10	2.55	4.00	5.10
12x10	12	10	50	3½x13	2.40	2.90	4.40	5.50
13x11	13	11	35	4 x14	3.15	3.80	5.25	6.55
14x12	14	12	35	8 x14	4.35	5.25	6.85	8.00

Panama Convex Registers are attached to stack head by tin straps or by same method as used for installing any wafer deflecting register.

Be careful to designate whether Vertical or Horizontal Registers are required.

To prevent mistakes when ordering, use catalog dimensions.

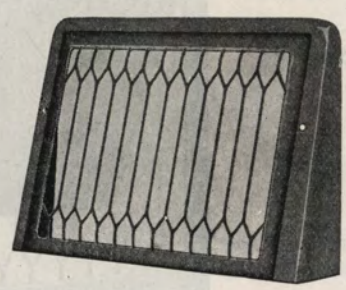
Panama Convex Registers have the same Perfect and Dependable Operating Device as used on National and Capitol Baseboard Registers.

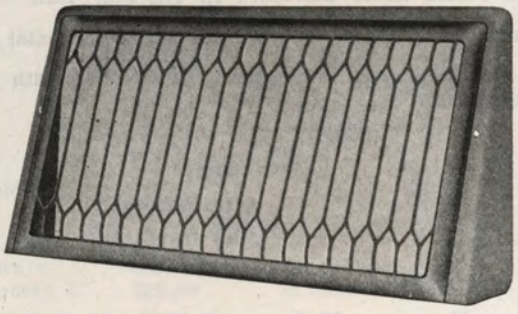
BASEBOARD COLD-AIR FACES

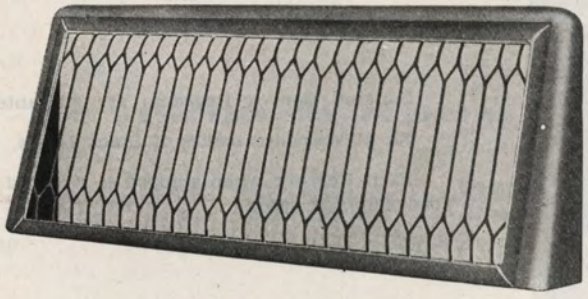
PANAMA

MADE OF PRESSED COLD ROLLED STEEL AND FURNISHED WITHOUT BOXES

An Achievement in Beautified Simplicity and Maximum Capacity







LIST PRICES OF PANAMA BASEBOARD COLD-AIR FACES

	Size of Face Opening in Inches	Extension from Plaster in Inches	Black Japan	White Japan or Lacquered Bronze	Electroplated Ox. Copper	Bru Bronze Nick
No. 2014	10x14	5	$2.50	$ 3.00	$ 4.50	$ 4.
No. 2030	10x30	5	5.00	6.25	9.00	10.
No. 2217	12x16	5	4.00	4.80	5.50	6.
No. 2227	12x26	5	5.50	6.60	8.25	9.
No. 2232	12x32	5	7.00	8.40	11.00	12.

Beautifully designed with Deeply Embossed Narrow Parallel Bars—Match Perfectly the Panama Baseboard Register.

Are as Marked an Improvement over Floor Cold-Air Faces as Baseboard Registers are over Floor Registers.

Two Long Wood Screws are furnished with each Panama Baseboard Cold-Air Face for attaching same to the Studdi or Wall.

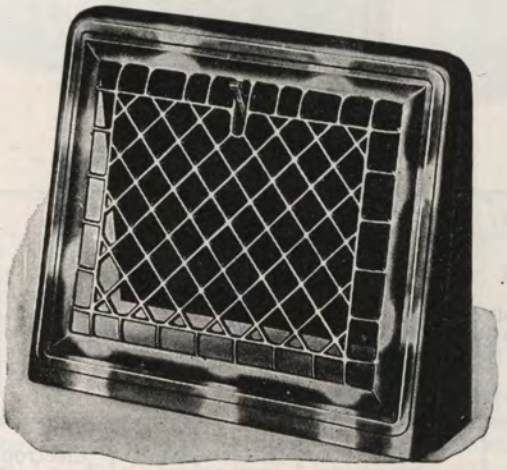
Always order by catalog number, specifying finish required.

BASEBOARD REGISTERS

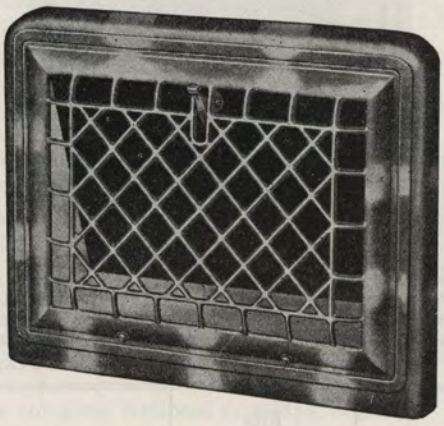
NATIONAL

MADE OF PRESSED COLD ROLLED STEEL

This register is made of two parts—a register and a frame. The frame fits against the plastered wall and the register box passes through the opening and turns over similarly to a floor register box in a floor border. This seals the register to the box.



FIRST FLOOR STYLE



SECOND FLOOR STYLE

Compare the lists below with list prices of other Base Registers. Do not let the rich beauty of the National stop you.

THE LISTS COMPARE WITH THE CHEAPEST

Catalog Number	Size of Register Box Flange or Face Opening in Inches	Base Extension Beyond Plaster in Inches	Black Japanned	White Japanned and Lacquered Bronze	Oxidized Copper	Plated Brass Bronze, Copper and Nickel
53	10 x 8	1⅛	$2.00	$2.35	$3.50	$3.85
52	12 x 8	1⅛	2.40	2.90	3.95	4.35
54	12 x 9	1⅛	2.50	3.00	4.00	4.40
53½	10 x 8	2¼	2.00	2.35	3.50	3.85
52½	12 x 8	2¼	2.40	2.90	3.95	4.35
52¼	12 x 8	3¼	3.00	3.50	4.50	4.90
54½	12 x 9	2¼	3.00	3.50	4.50	4.90
54¼	12 x 9	3¼	3.25	3.75	4.75	5.15
55	12 x 10	2⅜	3.75	4.35	5.50	6.10
55¼	12 x 10	3¼	4.00	4.60	5.75	6.35
56	13 x 11	3¼	4.50	5.25	6.75	7.50
556	13 x 11	5¼	5.25	6.00	7.50	8.25
557	14 x 12	5¼	6.50	7.50	8.50	9.50

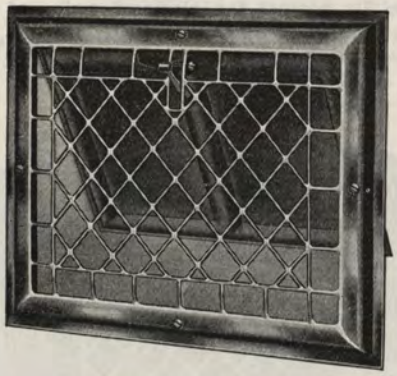
Always Order Baseboard Registers by Catalog Number.

REGISTERS & COLD-AIR FACES

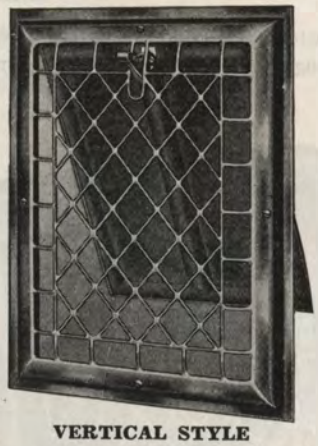
NATIONAL CONVEX REGISTERS

TO MATCH THE JONES-NATIONAL AND NATIONAL EITHER HORIZONTAL OR VERTICAL
TO BE PLACED ABOVE BASE BOARD

The first figure given in numbering denotes the width of the register; the last figure denotes the height.



HORIZONTAL STYLE



VERTICAL STYLE

Made of Pressed Cold Rolled Steel

Design Patented. The National Convex Registers are made in either horizontal or vertical positions. Mission Convex Registers in Square Lattice Design and Flat Bars take same list as National Convex Registers. The First Dimension Always Should Designate the Width.

PRICE LIST, ETC., OF NATIONAL CONVEX REGISTERS

Size	Fits Register Box Inches	Wall Pipe	Black Japanned	White Japanned	Electroplated Oxidized Copper	Electroplated Bronze, Brass, Nickel
8 x 10	8 x 10	3½ x 10	$1.65	$2.00	$3.15	$3.85
10 x 8	10 x 8	3¼ x 12	1.65	2.00	3.15	3.85
8 x 12	8 x 12	3½ x 12	1.90	2.30	3.65	4.40
12 x 8	12 x 8	3½ x 12	1.90	2.30	3.65	4.40
9 x 12	9 x 12	3½ x 12	2.10	2.55	4.00	5.10
12 x 9	12 x 9	3½ x 12	2.10	2.55	4.00	5.10
10 x 12	10 x 12	3½ x 13½	2.40	2.90	4.40	5.50
12 x 10	12 x 10	3½ x 13½	2.40	2.90	4.40	5.50
13 x 11	13 x 11	4 x 14	3.15	3.80	5.25	6.55
14 x 12	14 x 12	8 x 14	4.35	5.25	6.85	8.00

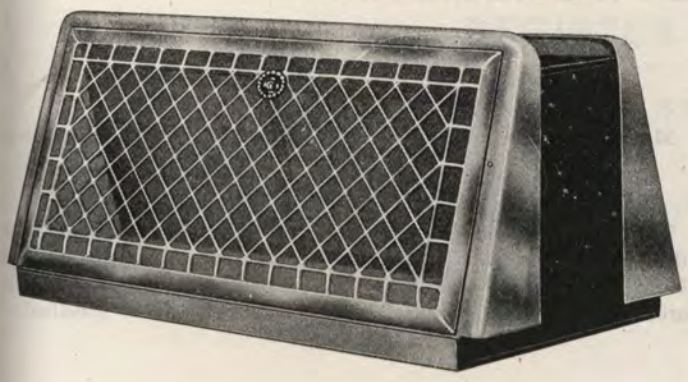
Capitol Convex takes same list and Discount as National Convex but is made in Square Lattice Embossed Bar Design.

NATIONAL BASEBOARD COLD-AIR FACES

LIST PRICES

Catalog Number	Size of Face Opening	Base Extension	Black Japan	White Japan and Lacquered Bronze	Oxidized Copper	Plated Bronze Brass and Nickel
1014	10x14	5 in.	$2.50	$3.00	$4.50	$4.80
1030	10x30	5 in.	5.00	6.25	9.00	10.00
1217	12x17	5 in.	4.00	4.80	5.50	6.25
1227	12x27	5 in.	5.50	6.60	8.25	9.25
1232	12x32	5 in.	7.00	8.40	11.00	12.00

NATIONAL ONE-PIPE REGISTERS



Made of pressed cold rolled steel, perfectly formed and embossed and beautifully finished in both single and double-header types.

DOUBLE HEADER

These are furnished complete with double metal register boxes which, in the case of double-header registers, are equipped with one dividing damper suspended from the lowest point of that part of top of box that forms the insulating protective section. This makes it easy to divide the warm air supply or divert whatever portion is required through each or either side of the register. This arrangement is also a safeguard against the registers becoming completely closed and the circulation of air stopped.

(This applies only to Double-Head National One-Pipe Registers.)

Complete with Boxes, Dampers and Operating Devices							Double Boxes only
No.	Size of Face Opening in inches	Size of Boot Opening, in.	Extension from Plaster	Black Japanned	White Japanned	Electroplated Ox. Cop.	
434	Two 12x17	14x17	5-in.	$17.00	$18.60	$20.00	$7.00
454	Two 12x27	14x27	5-in.	23.00	25.20	28.50	9.00
466	Two 12x33	14x33	5-in.	29.00	31.80	37.00	11.00

Above prices include two Register Faces with box, thus forming one complete National One-Pipe Register. Boxes for National One-Pipe Register have a commodious air space in top of box for fire protection.

U. S. Steel Cold-Air Faces Used with National One-Pipe Registers When Pipeless Furnaces Are Installed.

Size	Black Japanned	Oxidized Copper	Brass or Nickel
12x18N	$3.90	$6.65	$8.35
12x27N	7.50	12.50	17.50
12x34N	11.00	16.00	20.00

When ordering U. S. Steel Cold-Air Faces to be used with National One-Pipe Registers, refer to the list and specify the letter "N" after giving the dimensions of the face required. For example: "12x34N".

NATIONAL CONVEX VENTILATING FACES

Made of Wrought Steel

In Three Poular Sizes

Design Patented. Matches in design the Jones-National and National Registers.

Are fastened to outside of wood-work with wood screws.

CAPITOL CONVEX VENTILATING FACES

LIST PRICES

OF NATIONAL CONVEX VENTILATING FACES

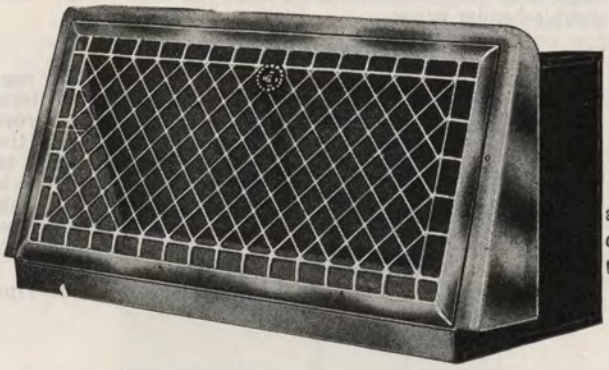
Catalog No.	Extreme Size	Black Japan	White Japan	Oxidized Copper	Brass Bronze or Nickel
514	5⅛x16⅝	$1.00	$1.40	$2.00	$2.40
524	5⅛x26	1.75	2.25	3.65	4.00
530	5⅛x32¼	2.15	3.00	4.60	5.00

Made in Square Lattice Embossed Bar Design.

This gives a choice of Diamond or Square Lattice Embossed Design.

Capitol Convex Vent Faces take the same list and discount as National Convex Vent Faces.

NATIONAL ONE-PIPE REGISTERS



Made of pressed cold rolled steel with double metal box attached

SINGLE HEADER

The Single-Header National One-Pipe Register is furnished with adjustable deflector. Care should be used not to completely shut off register on a one-pipe job. The Single-Header type is made in three sizes. It can be secured with out deflectors, if so specified.

Complete with Box, Damper and Operating Device

No.	Size of Face Opening in inches	Size of Boot Opening, in.	Extension from Plaster	Black Japanned	White Japanned	Electroplated Ox. Cop.	Double Boxes only
217	12x17	9x17	5-in.	$9.00	$9.80	$10.50	$4.00
227	12x27	9x27	5-in.	12.50	13.60	15.25	5.50
233	12x33	9x33	5-in.	16.00	17.40	20.00	7.00

Above prices include one register face, damper and box complete, forming one complete National One-Pipe Register.

Component Parts of National One-Pipe Register

No.	Size of Face in inches	Faces			Handles, All Sizes		Deflectors	Opg. Screws	Bolts and Spring
		Black Japan.	White Japan.	Ox. Cop.	Black Japan.	Ox. Cop.			
1217	12x17	$4.00	$4.80	$5.50	$0.20	$0.30	$1.00	$0.50	$0.20
1227	12x27	5.50	6.60	8.25	.20	.30	2.00	.50	.20
1233	12x33	7.00	8.40	11.00	.20	.30	3.00	.50	.20

BOOTS AND ANGLES

For National One-Pipe Registers.

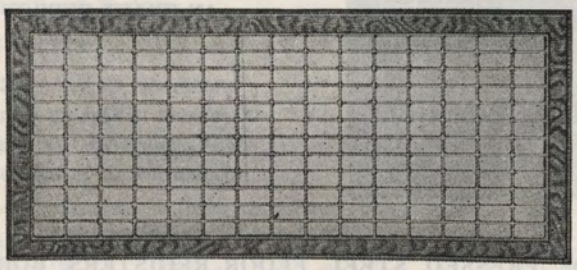
Number	Size of Collar, in.	No. 5 Boot	No. 6 Angle
217 Single Head	14 or 16	$2.90	$1.80
227 Single Head	18 or 20	4.40	2.60
233 Single Head	22 or 24	5.50	3 30
434 Double Head	16 or 18	3.40	2.10
454 Double Head	20 or 22	4.60	2.70
466 Double Head	24 or 26	6.60	4.00

Fittings for National One-Pipe Registers are made of heavy gauge galvanized sheets. Be sure to use catalog numbers when ordering, and to specify size of round collar wanted. To ascertain list on 90 degree elbows for the above add fifty per cent to list of Cut 6 angles.

REGISTER FACES

U. S. SPECIAL STEEL FACES

U. S. Special Steel Faces (Oak Finish) are made in following sizes only. Made of slightly lighter steel than Regular Steel Faces. Supporting bars are welded to the face. A superior Product in Oak Grain Finish. Our Oak Grain is not lacquered but a three-coat Baked-On Product that is guaranteed.



LIST PRICES OF STOCK SIZES

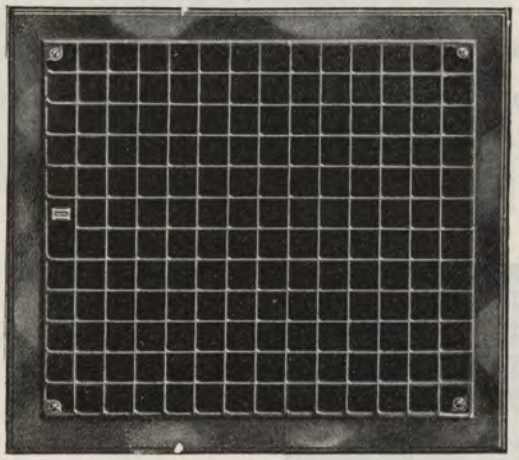
Size	Round Pipe Size Inches	Black Japanned	Oak Grain L. B.	Oxidized Copper	Nickel Bronze Brass
8x30	14	$3.60	$ 3.85	$ 5.50	$ 7.50
10x24	12	3.60	3.75	5.00	6.50
10x30	16	3.75	4.25	5.75	8.50
12x14	12	2.50	3.00	4.50	5.00
12x24	16	3.75	4.00	5.50	8.00
12x30	18	4.00	4.50	6.00	9.00
14x30	20	4.50	5.00	9.00	11.00
16x30	20	5.50	6.00	9.50	11.25
18x30	22	5.75	6.50	10.00	11.50
20x30	24	6.00	7.00	10.50	12.00
24x36	26	9.50	10.00	15.00	20.00

FLOOR REGISTERS

PRESSED STEEL

NEW U. S.

WITH DEEPLY EMBOSSED NARROW BARS MAXIMUM CAPACITY



The New Style U. S. Steel Floor Registers are constructed of cold rolled steel, perfectly perforated and deeply embossed to give maximum strength and capacity. When installed, they fit snugly to the finished floor. Note the beveled edge of register face, which makes unnecessary the sinking of the face in the floor, as is necessary with cast registers.

Do not break and easier to handle and install

AN EXACT REPRODUCTION OF THE ACTUAL U. S. STEEL FLOOR REGISTER

Maximum Capacity—Ease and Perfection in Operation—Unequaled in Quality—Furnished in All Standard Sizes.

The Square Lattice Design is adhered to on all sizes up to and inclusive of 14 inches in width.

LIST PRICES OF PRESSED STEEL FLOOR REGISTERS, BORDERS AND FACES

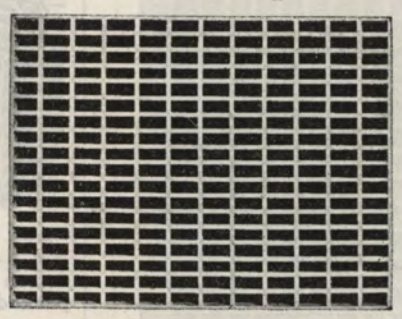
Size of Opening in Inches	Black Japan			White Japan and Lacquered Bronze		Oxidized Copper			Bronze, Brass Nickel		
	Compl. Regist.	Face Only	Border Only	Compl. Regist.	Face Only	Compl. Regist.	Face Only	Border Only	Compl. Regist.	Face Only	Border Only
4x 6	$ 1.40	$ .55	$ 1.15	$ 1.70	$ .85	$ 2.00	$ 1.15	$ 1.75	$ 2.20	$ 1.35	$ 2.10
‡4x 8	1.50	.60	1.15	1.80	.90	2.20	1.30	1.85	2.40	1.50	2.15
‡6x 8	1.55	1.00	1.15	1.85	1.30	2.80	2.25	2.40	3.10	2.50	3.00
‡6x10	1.60	1.05	1.20	1.95	1.40	3.00	2.45	2.60	3.50	2.95	3.60
‡6x12	1.85	1.25	1.45	2.25	1.60	3.50	2.90	3.10	4.20	3.60	4.10
8x10	1.65	1.10	1.25	2.00	1.45	3.15	2.60	2.75	3.85	3.30	3.90
8x12	1.90	1.30	1.50	2.30	1.70	3.65	3.05	3.25	4.40	3.75	4.40
‡8x16	4.50	2.70	2.70	5.40	3.60	6.75	5.00	5.00	8.00	6.25	7.00
9x12	2.10	1.45	1.65	2.55	1.90	4.00	3.35	3.35	5.10	4.45	5.00
10x12	2.40	1.70	1.75	2.90	2.20	4.40	3.70	3.75	5.50	4.80	5.35
10x14	3.15	2.20	2.20	3.80	2.85	5.25	4.30	4.30	6.55	5.60	6.00
‡10x24	12.15	5.35	5.35	13.40	6.60	16.25	9.45	9.45	18.50	12.00	12.15
12x14	4.35	2.80	2.80	5.25	3.65	6.85	5.35	5.35	8.25	6.75	7.35
12x15	4.50	2.90	2.90	5.40	3.80	7.00	5.40	5.40	8.50	6.90	7.60
12x16	5.60	3.50	3.50	6.70	4.60	8.25	6.15	6.15	9.75	7.65	8.25
‡12x24	12.25	5.50	5.50	13.50	6.75	16.30	9.55	9.55	18.60	12.10	12.25
‡12x30	20.00	8.20	8.20	22.00	10.20	26.00	14.20	14.20	29.00	18.00	17.00
14x16	8.50	4.30	4.30	10.20	6.00	11.50	7.30	7.30	16.50	11.00	11.00
14x18	9.00	4.50	4.50	10.80	6.30	12.00	7.50	7.50	18.50	12.00	12.15
14x20	9.50	4.80	4.80	11.25	6.40	13.00	8.50	8.50	20.50	13.00	12.75
14x22	10.50	5.00	5.00	12.00	6.50	14.50	9.00	9.00	22.50	14.50	13.50
‡14x24	14.90	6.90	6.90	16.40	8.40	19.50	11.50	11.50	26.00	16.50	15.00
‡14x30	27.50	10.75	10.75	30.25	13.20	33.00	18.00	18.00	37.50	25.00	21.60
‡16x18	12.00	5.30	5.30	13.20	6.50	16.20	9.50	9.50	22.25	14.25	13.25
16x20	12.35	6.10	6.10	13.60	7.35	16.55	10.30	10.30	24.60	16.00	14.00
‡16x22	14.75	6.70	6.70	16.20	8.15	19.50	11.50	11.50	28.00	18.00	16.00
16x24	15.00	7.00	7.00	16.50	8.50	20.00	12.00	12.00	29.60	19.25	17.10
‡16x30	27.90	11.00	11.00	30.70	13.80	35.00	18.25	18.25	37.50	25.00	21.60
‡18x20	19.50	7.60	7.60	21.45	9.55	24.75	12.85	12.85	29.00	18.00	17.00
‡18x22	21.00	8.00	8.00	23.00	10.00	26.70	14.00	14.00	32.50	21.00	18.40
‡18x24	21.50	8.35	8.35	23.65	10.50	27.75	14.60	14.60	34.25	22.50	18.75
‡18x30	31.25	13.25	13.25	34.35	16.35	38.00	21.00	21.00	43.00	28.50	22.70
‡18x36	38.00	17.25	17.25	41.80	21.05	48.50	28.10	26.00	54.00	36.00	28.00

We are in a position to furnish any other sizes of registers, borders and faces made and catalogued by standard register manufacturers.

Items marked thus ‡ not carried in stock; shipped direct from factory.

COLD-AIR FACES

U. S. WOOD



U. S. WOOD FACES are made of the best selected grades of oak or other available hardwood, thoroughly seasoned and kiln dried.

Deep strips of face are ⅛-inch thick by 1⅝-inches deep, cut to receive cross strips ⅛x⅛-inches.

Made in our own Most Modernly Equipped Factory.

LIST PRICES OF STOCK SIZES OF U. S. WOOD COLD-AIR FACES

Floor Opening in Inches	U. S. Wood Cold-Air Faces	Area of Air Space in Square Inches	Nearest Size of Round Pipe of Equivalent Area	Floor Opening in Inches	U. S. Wood Cold-Air Faces	Area of Air Space in Square Inches	Nearest Size of Round Pipe of Equivalent Area
6 x 24	$1.00	81	10 in.	14 x 24	$2.33	188	16 in.
6 x 30	1.25	101	12 in.	***14 x 30**	**2.92**	**235**	**16 in.**
6 x 36	1.50	121	12 in.	14 x 40	3.89	314	20 in.
6 x 40	1.67	134	12 in.	14 x 50	4.86	392	22 in.
				14 x 60	5.83	470	24 in.
8 x 24	1.34	108	10 in.	16 x 20	2.22	179	14 in.
8 x 30	1.67	134	12 in.	16 x 24	2.67	215	16 in.
8 x 36	2.00	161	14 in.	***16 x 30**	**3.34**	**269**	**18 in.**
8 x 40	2.23	179	14 in.	18 x 24	3.00	242	18 in.
10 x 24	1.67	134	12 in.	***18 x 30**	**3.75**	**303**	**20 in.**
***10 x 30**	**2.09**	**168**	**12 in.**	20 x 24	3.33	269	18 in.
10 x 36	2.50	202	16 in.	20 x 28	3.88	314	20 in.
10 x 40	2.78	224	16 in.	***20 x 30**	**4.17**	**336**	**20 in.**
12 x 14	1.17	95	10 in.	22 x 28	4.29	345	22 in.
12 x 18	1.50	121	12 in.	24 x 24	4.00	323	20 in.
12 x 20	1.66	135	12 in.	***24 x 30**	**5.00**	**403**	**22 in.**
12 x 24	2.00	161	14 in.	24 x 36	6.00	484	24 in.
***12 x 30**	**2.50**	**202**	**14 in.**	26 x 30	5.42	437	24 in.
12 x 40	3.33	269	18 in.	***28 x 30**	**5.84**	**471**	**24 in.**
12 x 50	4.17	336	20 in.	30 x 30	6.25	504	26 in.
12 x 60	5.00	403	22 in.	30 x 36	7.50	605	28 in.
14 x 20	1.94	157	14 in.				
14 x 22	2.13	173	14 in.				

Sizes in heavy type and prefixed with a (*) are recommended because of setting over joists to the best advantage.

Every U. S. WOOD FACE is covered by our guarantee as to quality, material and workmanship.

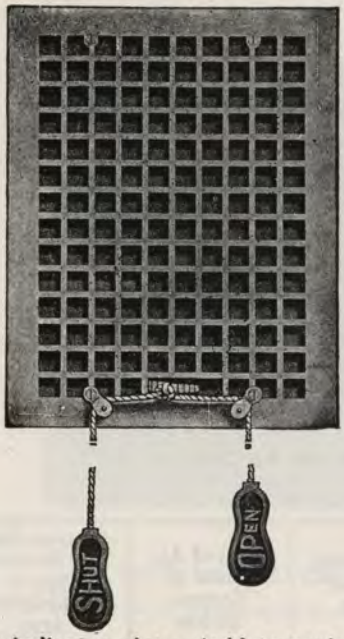
Above sizes as Listed indicate that the Deep Strips run the long way of the Face.

To designate that deep strips should run the short way of the face, Reverse the figures of the size. For example, 12x30 means deep strips run the Long way—30x12 means deep strips run the Short way.

VENTILATORS AND REGISTERS

PULLEY REGISTERS

For Wall and Ceiling.



For indicator plates (add to register price) Per pair ..... .50

Regular registers equipped with pulleys and indicator plates.

For pulleys (add to register prices) Per pair $1.00

STOVE PIPE REGISTERS

And Ventilators.
Adams'.

Adams' stove pipe register ventilators consists of one cast iron black Japanned floor plate and one white ceiling plate. Floor plate has adjustable slide in rim; one solid and one open pattern removable flue stop, and ceiling plate has one open removable plate.

For stove pipe, inches	6	7
Dia. of plates, in....	16	16
Opening, inches	6¼	7¼
Wt. doz., lbs., boxed.	218	240
Adams' complete dozen sets	$50.00	$50.00

STOVE PIPE CYLINDERS

Corrugated.

The **corrugated screw adjustable** stove pipe cylinder is made of IX bright tin with Japanned wrot steel heads. The halves screw firmly together and cannot get out of place by age or vibration.

For Walls.

No. 8—4 to 7½-inch adjustment for 6-inch pipe. Weight, per dozen packed, 16 lbs. Per dozen...$12.00

No. 10—4 to 7½-inch adjustment for 7-inch pipe. Weight, per dozen packed, 20 lbs. Per dozen... 14.00

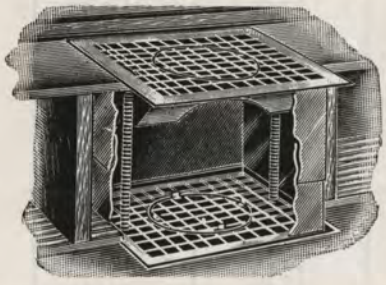
For Floors.

No. 9—7½ to 12½-inch adjustment for 6-inch pipe. Weight, per dozen, packed, 20 lbs. Per dozen...$14.50

Open stock.

COMBINATION VENTILATORS

Independent.



The sheet metal box adjusts from 7 to 12 inches.

Both the cast iron black floor register and the wrought steel white ceiling plate are provided with openings for a six inch smokepipe to pass through.

Made with 6-inch smokepipe openings only.

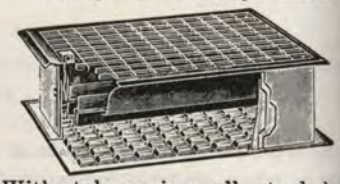
No. 108—Size of sheet metal box, 8x10 inches. Weight, each, 6½ lbs. Each $4.40

Each ventilator in a separate package. One-quarter dozen in a crate.

Three in a case.

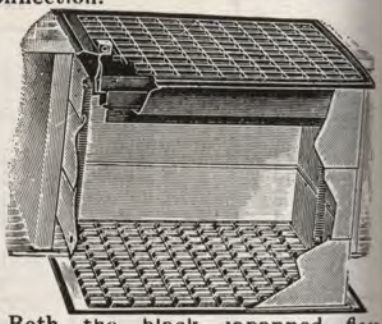
CEILING VENTILATORS

"Independent" Adjustable.



With telescoping all steel boxes. The connecting boxes adjust to fit all ordinary ceilings to eleven inches in depth, yet in comparison with the older styles of ventilators. **They take but little more than half of Dealer's Stock Space.** This advantage is secured by using three low boxes which telescope within each other, instead of two higher boxes as heretofore.

The installation is made quickly by one man from the floor of the room above. A second man with a step ladder to reach the ceiling below is not required. Often at the time of installation, the floor and ceilings open are cut out of alignment. In such cases the connecting boxes readily accomodate themselves to the variation and make a perfect connection.



Both the black japanned floor register and the white japanned ceiling face are of wrought steel which means light weight and freedom from breakage. All sizes with boxes telescoped are approximately four inches high and adjust to fit ceilings from four to eleven inches deep.

No. 640—Size of sheet metal box, 8x10 inches. Weight, each, 6½ lbs. Each $4.40

No. 642—Size of sheet metal box, 9x12 inches. Weight, each, 7¾ lbs. Each 5.40

No. 643—Size of sheet metal box, 10x12 inches. Weight, each, 8¼ lbs. Each 6.40

No. 644—Size of sheet metal box, 10x14 inches. Weight, each, 10 lbs. Each 7.60

No. 646—Size of sheet metal box, 12x15 inches. Weight, each, 12¾ lbs. Each 10.40

One in a box.

STOVE PIPE SUNDRIES

CEILING PLATES

Adams.

Illustration represents the the ceiling plate used with Adams' stove pipe register and ventilators.

6-inch ceiling plates only, white enameled. Weight, per dozen, 63 lbs. net. Per dozen $30.00

7-inch ceiling plates only, white enameled. Weight, per dozen, 69 lbs. net. Per dozen $33.00

Half dozen in a crate.

FLUE STOPS

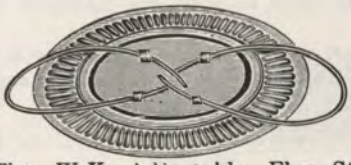
Kirch Adjustable.

The Kirch adjustable stop is the only one that keeps the soot back 3½ inches from the cover, thereby eliminating the danger of flue fire. It stays firm and tight. Drafts cannot loosen it. The front of cover is attractively finshed.

Kirch—Weight, per dozen, 5 lbs. Per dozen $2.70

One dozen in a carton.

W-K.



The W-K Adjustable Flue Stop has oil tempered spring steel wires that hold this stop more securely than any other wire stop made. Wires are assembled. Attractively finished in assorted lacquered tin and polished blue steel fronts. Each front has lithographed picture in colors.

No. W-K—For 6 and 7-inch pipe; weight, per dozen, 2½ pounds. Per dozen $1.50

Clark's Gem.

No. 1—Clark's Gem—Blank is 7¾-inches in diameter. Finished in attractive apple green color. Lithographed picture is held in place by bumped-down metal flange, thereby eliminating the use of paste. Features Gem folding wire fasteners. Fits 6-inch flue. Weight per dozen 3¾ lbs. Per dozen $2.25

Packed one dozen in a sturdy set-up box.

No. 3—Clark's Gem—Embossed blank 8¼ inch diameter. Finished in apple green. Mechanically locked-in picture eliminates the use of paste. Gem folding wire fasteners are featured. Fits 6-inch flue. Wt., per dozen 3 lbs. Per dozen....$2.00

Packed one dozen to a set-up box.

No. 37—Clark's Gem Green Enamel finish, same as No. 3 but with wire arranged for use in 7-inch stove pipe flue. Wt., per dozen. 3 lbs. Per dozen.....$2.00

All above, one dozen in a box.

STOVE PIPE COLLARS

Crown.

Brass Finish.

Crown Fancy Design.

For pipe, inches	6	7
Wt., dozen, lbs.	1½	1¾
Per dozen	$0.64	0.80

Lacquered brass finish, especially made for piping gas ranges into chimney to carry off cooking odors

No. 36—3-inch hole, 9 inches in diameter. Wt., per dozen, 2 lbs. Per dozen.....$0.80

No. 46—4-inch hole, 9 inches in diameter. Weight, per dozen, 2 lbs Per dozen $0.80

One dozen in a package.

STOVE PIPE THIMBLES

K. D. Nested.

Galv.

Sheet Iron.

All 6" Wide.

Diameter, inches	3	4
Wt., dozen, lbs.	3½	4
Per dozen	$1.30	$1.40

Knocked Down.

No. 67—Galvanized Adj. Adjustable for 6 inch or 7 inch pipe, 4½ inches wide. Wt., 4½ pounds. Per dozen $1.30

No. 676—Same as No. 67 but 6 inches wide. Per dozen $1.80

No. 89—Same as No. 67 but adjustable from 8 to 9 inches. Per dozen $2.50

Common Cast Iron.

6 inches—Weight, per dozen, 30 pounds. Per dozen $9.00

7 inches—Weight, per dozen, 42 pounds. Per dozen 11.00

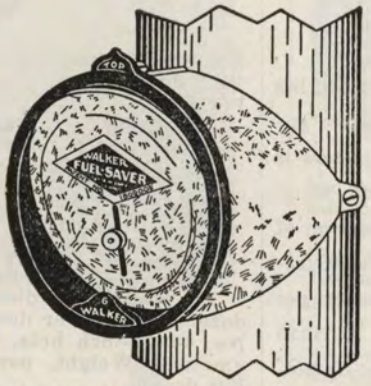
8 inches—Weight, per dozen, 48 lbs. Per dozen $12.50

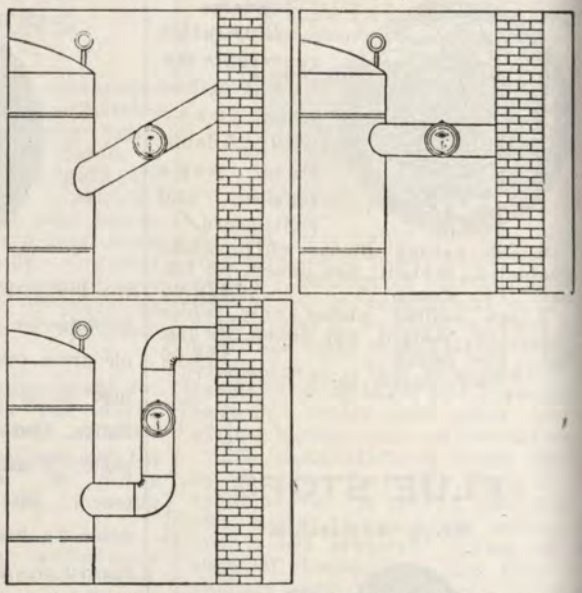
9 inches—Weight, per dozen, 50 lbs. Per dozen 15.00

Open stock.

DRAFT REGULATOR AND FUEL SAVER

WALKER AUTOMATIC





The 100% efficient Walker WYSWA Fuel Saver Draft Regulator is the answer for an inexpensive, dependable means of automatically furnishing proper draft conditions and reducing fuel consumption. It reduces fuel consumption 5 to 25%. It reduces stack temperature. It reduces the hazard caused by overheated flues or chimneys. It causes the combustion to occur in the combustion chamber of the furnace instead of in the chimney. It automatically provides proper draft under all weather conditions. It automatically assists in eliminating buff-backs. It is of simple and durable construction with no complicated parts to get out of order or prevent positive action. It provides a ventilator to carry off the diseased and foul air from the home. Some of the largest manufacturers of heating systems, recognizing the efficiency of the Walker Fuel Saver Draft Regulator, have adopted it as part of their standard installation equipment. It is compact and very neat in appearance. It is recognized by many of the foremost heating engineers as a necessary fuel-saving accessory. It is guaranteed by the Walker Sales Corporation. Our success in marketing the WYSWA Draft Regulator is the indisputable proof of its merits.

Please remember that the WALKER FUEL SAVER can be depended upon to maintain a uniform draft under the varying conditions of chimney drafts. Excessive drafts, due to winds of high velocity, are reduced to normal, thus maintaining a steady fire.

The main factors in analyzing the common losses which occur in ordinary heating systems, can be divided into three general classes, namely:

1—Stack heat or overheated chimneys.

Combustion loss through defective heating systems.

3—Radiation and circulation loses.

It is a well known fact that the largest part of all fuel is wasted. Of this waste more than 50% is Stack Losses, or in other words, excess air or gas temperature loss.

Heating experts know that draft is the breath of life of any heating system.

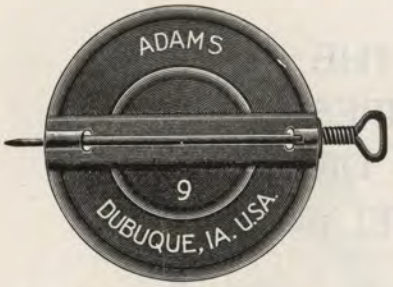
Every fuel, whether it be oil, coal, coke, gas or wood, should have an even draft in order to derive the maximum combustion efficiency.

After years of study and severe tests in actual use the enginers of this company have perfected and the company is now manufacturing and marketing the Walker WYSWA (Fuel Saver) Draft Regulator, which works automatically and can be secured and installed quickly and economically.

‡No. 3— 3 inch—Each	$3.20
No. 4— 4 inch—Each	3.20
‡No. 5— 5 inch—Each	3.80
No. 6— 6 inch—Each	4.40
No. 7— 7 inch—Each	4.60
No. 8— 8 inch—Each	4.90
No. 9— 9 inch—Each	5.20
No. 10—10 inch—Each	6.40
‡No. 12—12 inch—Each	7.70

STOVE PIPE SUNDRIES

WARM AIR PIPE DAMPERS



Our Warm Air Pipe Dampers are constructed of heavy weight sheet iron with a substantial steel spindle.

Size, inches	7	8	9
Wt., dozen, lbs.	7	8	9
Per dozen ..	$3.20	$4.40	$5.20
Size, inches	**10**	**12**	**14**
Wt., dozen, lbs.	11	16	21
Per dozen ..	$5.60	$7.00	$10.00

STOVE PIPE DAMPERS

Non-breakable one-piece steel spindle with a long sharp steel point will pierce any stove pipe. Nickel coil Alaska handle is always cool.

Size, inches	3	4	5
Wt. dozen, lbs..	4	5	6
Per dozen	$2.60	2.80	3.00
Size, inches	**6**	**7**	**8**
Wt. dozen, lbs..	8	13	14
Per dozen	$3.50	5.00	8.00
Size, inches	**9**	**10**	**12**
Wt. dozen, lbs.	14	23	41
Per dozen	$12.00	15.00	18.00

DAMPER CLIPS

American—The **new slip** no-rivet damper clip can be put on a damper as quickly as the holes can be marked for the old style clip. On dampers under 12" it is not necessary to use a tail piece as the large shoulder washer and stiff spring hold it perfectly rigid.

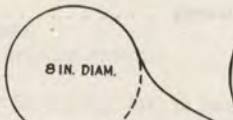
No. 21—Clips only (without tail pieces). Per dozen.....$2.00

No. 20—Clips with tail pieces. Per dozen 2.50

VAILS ADJUSTABLE SWING CHIMNEY TOP

Fig. 1.

Fig. 2.



Here s what you have often wanted—a chimney top frame that will fit five different sizes of stack. The adjustable legs can be extended to any size from 6 inch to 10 inches inclusive. Just draw a circle the size of the pipe you are going to use; set the castings in the center, and extend the legs equally to touch the circle; then tighten the nuts. You can also adjust the height of the mounting by bolting the legs lower on the pipe for the smaller sizes and higher for the larger sizes.

Frames only—Adjustable 6-in. to 10-in. inc. Per dozen $21.60

With Hoods and Vanes—

6-inch. Per dozen $37.00
7-inch. Per dozen 39.70
8-inch. Per dozen 42.00
9-inch. Per dozen 45.50
10-inch. Per dozen 49.00

REVOLVING CHIMNEY TOPS

The Best.

Revolving chimney top is all made of cast iron except the vane, which is heavy steel. It has perfectly adjusted ball bearings both above and below and turns with the slightes breeze. Absolutely prevents the rain beating in and discoloring the inside walls. It is practically indestructable and will last for years. Made in three sizes. Legs are adjustable to different sized chimneys as shown below. It is easy to attach and is held as firmly as the chimney itself.

No. 1½—For chimneys—1½x2 brick, flue 4x8; 2x2 brick, flues 8x8; 1½x2½ brick, flues 4x12; 2x2½ brick, 8x12. For 8-inch opening. Per dozen $60.00

‡**No. 1**—For chimneys—1½x2 brick, flues 4x8; 2x2 brick, flues 8x8. For 7-inch opening. Per dozen.. 50.00

‡**No. 3**—For chimneys—2x3 brick, flues 8x16; 2½x3 brick, flues 12x16. For 8-inch opening. Per dozen 80.00

Weights are as follows: No. 1, 27 pounds; No 1½, 24 pounds; No. 3, 37 pounds.

One in a crate.

Items marked thus ‡ not carried in stock

Shipped from factory only.

ROOF CAPS, CHUTES, ETC.

CHIMNEY CAPS

Best.

Made of cast iron, with adjustable legs which fit inside or outside of chimney to prevent cap from blowing off. These legs, also keep the cap in place without the aid of mortar, but two sizes are necessary to fit flues from 4x8 inches to 12x12 inches

No.	**10**
Collar of pipe, inches	7
Bricks	1½x2 or 2x2
Flues	4x8 and 8x8
Weight, dozen, lbs.	100
Per dozen	$25.00

No.	**10½**
Collar for pipe, inches	8
Bricks .....1½ or 2x2 or 2½	
Flues .....4 or 8x8 or 12	
Weight, dozen, lbs.	120
Per dozen	$28.00

Nos	**12**
Collar for pipe, in.	10
Bricks	2x3, 2½x3 or 2½x2½
Flues	8x16 12x16 12x12
Weight, doz., lbs.	800
Per dozen	$35.00

Half dozen ina crate

ROOF CAPS

6 inch Galvanizediron. Per dozen $6.50

Weight, per dozen, 12 lbs.

One dozen in a crate.

ROOF SADDLES

Side. Peak.

Galvanized Iron, for 6-inch Pipe.

Side.

No. 7—Side, for 6-inch pipe with 4-inch collar. Galvanized iron, 18x18 inches, ¼ pitch. Weight per dozen 32 lbs. Per dozen..$12.00

Car Saddles.

No. 9—Flat car saddle for 6-inch pipe with 6-inch collar. Galvanized iron, 18x18 inches. Weight per dozen 31 lbs. Dozen.$12.00

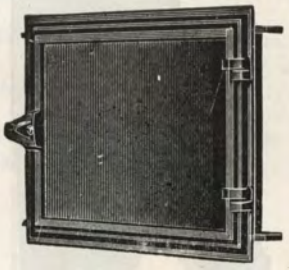
Peak.

No. 3—Peak, for 6-inch pipe with 6-inch collar. Galvanizd iron, 18x18 inches. ½ pitch. Weight per dozen 30 lbs. Per dozen $12.00

One dozen in a crate.

ASH DOORS AND FRAMES

CAST IRON



Designed for the bottom of chimneys sugar furnaces, heating furnaces or any kind of brick work requiring a light cast door.

Outside jamb measurement, ins.	**8x8**
Weight, each, lbs.	9
Cast iron. Each	$1.20

Outside jamb measurement, in.	**8x10**
Weight, each, lbs.	11
Cast iron. Each	$1.60

Outside jamb measurement, ins.	**10x12**
Weight, each, lbs.	14
Cast iron. Each $1.80	

Outside jamb measurement, in.	**12x15**
Weight, each, lbs.	20
Cast iron. Each	$4.50

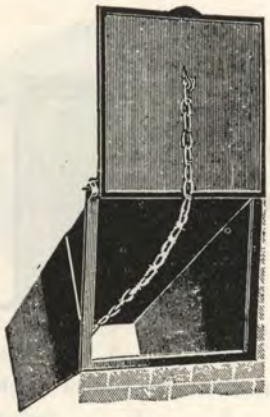
‡Outside Jamb measurement, in.	**16x20**
Weight, each, lbs.	34
Cast iron. Each	$6.30

Open stock

ASH DOORS & FUEL CHUTES

FUEL CHUTES

BEST



This fuel chute is designed to be permanently set in the foundation wall of the house to serve as a convenient means to receive fuel, yet secure from the outside and easily opened from the inside, sets flush with the wall. The frame and door are cast iron, tube is made from 18-gauge steel. Cover is held open by a hook on top of frame. A flange overlaps the top of door, preventing the rain from running in.

No. 1—18x18x18 inches. Weight 70 lbs. Each $12.80

All above, open stock.

SANICO RANGES

Have been Leaders in the Quality Enamel Range Field since SANICO first introduced Ranges with all enamel exterior finish, New prices lower than ever with no reduction in quality.

MAJESTIC COAL CHUTES

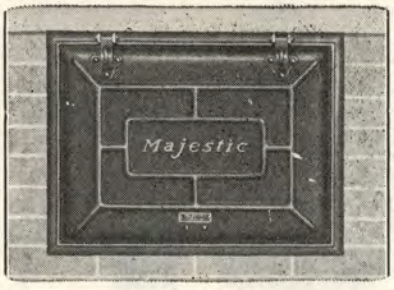
Illustrated at right is the Majestic Glass Panel Chute used where daylight is desired in coal bin. Panels are of ¼-inch plate glass set in rubber and completely protected by steel shield when chute is open.

Majestic Glass Panel Chute is automatically held open by slotted hinges which, being flat, permit door to easily clear water table. A heavy steel shield protects the glass from flying coal.

Sizes and Prices—Glass Panel Styles

Nos.	M10	‡M10	‡M20	‡M20	‡M600	‡M620
Style	A	C	A	C	—	—
Rough Wall Opening						
Width, inches	23	23	32	32	23	32
Height, inches	17	17	22	22	17	22
Depth, inches	12	12	17	17	9	12
Weight, each	60	50	119	100	42	86
Each	$12.90	$11.85	$23.10	$20.85	$10.65	$19.50

Style A With Hopper—Style C Without Hopper



The Illustration AT THE LEFT is typical of Majestic Solid Door Chutes. They can be furnished in different sizes with or without hopper as indicated in the table of sizes. Attractive in appearance and durable in construction. When in open position the door protects the wall above the opening from flying coal.

Sizes and Prices—Solid Door Styles

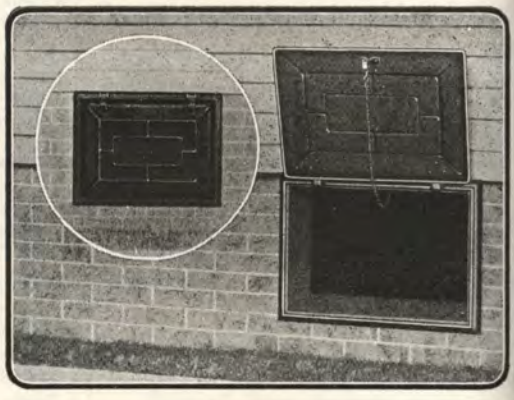
Nos.	M101	‡M101	‡M203	‡M203	M500	‡M520
Style	B	D	B	D	—	—
Rough Wall Opening						
Width, inches	23	23	32	32	23	32
Height, inches	17	17	22	22	17	22
Depth, inches	12	12	17	17	9	12
Weight, each, lbs.	51	40	105	87	35	71
Price, each	$10.20	$9.00	$20.55	$18.30	$7.65	$15.45

(Style B with Hopper—Style D Without Hopper)

MAJESTIC SPECIAL COAL CHUTE

These Coal Chutes are essentially the same as those shown above except that the frame is made of cast semi-steel. The Majestic Special is an outstanding value in Coal Chutes.

No. 50—Rough wall opening, 23x17x9 inches. Weight, each, 43 pounds. Each $5.50

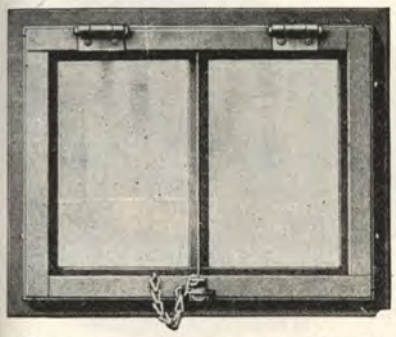


All items marked thus ‡ not carried in stock but shipped direct from factory.

RECEIVERS, DAMPERS, ETC.

STEEL WINDOWS

Crescent.



Stronger and more durable than wood. Can't warp, sag, swell or stick—always open and shut easily. Made of heavy steel, riveted and welded, making a solid, stiff rigid frame. Easily used with any type of foundation construction.

No.	Wall Opening, Inches	No. and Size Lights	Wt. lbs.	Each
3113G	33¼x22⅝	3—10x20	33	7.00
3113D	39¼x20⅝	3—12x18	35	7.00
2112E	30⅞x22⅝	2—14x20	30	6.75

Furnished regularly without the glass.

COVERS FOR MANHOLE RINGS

Heavy Cast Iron.

Grated Pattern.

No.	1G	2G	3G	4G
Diam. in.	14½	18¾	20½	24½
Fits ring No.	1H	2H	3H	4H
Wt., ea., lbs.	20	50	65	110
Each	$3.80	$5.60	$9.10	$13.80

STANDARD CISTERN RINGS & COVERS

20-inch—20-inch opening. Weight, each, 57 lbs. Ring and cover..$6.40

Open stock.

GARBAGE RECEIVERS

Convenient, sightly and sanitary are the outstanding advantages of the Majestic Underground Garbage Receiver. Consists of a cast-iron top; a Keystone copper shell; and a galvanized garbage can—either a heavy plain can or an extra heavy Witt Corrugated can. The entire receiver is coated with bitumastic solution—the enduring protection.

Plain Can.

No. 5—Shell diameter 13-inches; Shell depth, 15-inches. Capacity, 5 gallons Weight, 31 lbs. Each $7.80

No. 8—Shell diameter, 15-inches; Shell depth, 14-inches. Capacity 8 gallons. Weight, 48 lbs. Each $9.90

No. 12—Shell diameter, 15-inches; Shell depth, 20-inches. Capacity, 12 gallons. Weight, 52 lbs. Each $10.80

No. 15—Shell diameter, 15-inches; Shell Depth, 25-inches. Capacity, 15 gallons. Weight, 60 lbs. Each $11.40

No. 20—Capacity, 20 gallons. Wt., 80 lbs. Each 14.70

Witt Can.

No. 5—Capacity, 5 gallons. Weight, 35 lbs. Each $8.70

No. 8—Capacity, 8 gallons. Weight, 53 lbs. Each 11.10

No. 12—Capacity, 12 gallons. Wt., 58 lbs. Each 12.60

No. 15—Capacity, 15 gallons. Wt., 66 lbs. Each 15.90

No. 20—Capacity, 20 gallons. Wt., 87 lbs. Each 19.90

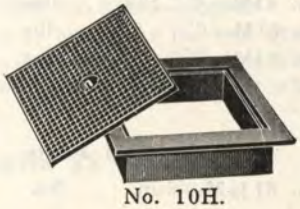
MANHOLE RINGS AND COVERS

For Sidewalks, Cisterns, Coal Bins, Etc.

Round.

Nos. 1H to 5H.

Square.



No. 10H.

Heavy Cast Iron Coal Hole and Cistern Rings.

Nos.	1H	2H	3H	4H	5H	10H
Ring opening, diameter, inches	14	18	20	24	30	18
Depth below flange, inches...	3½	3½	3½	5½	6	3½
Projection of flange, inches...	1½	1¾	2½	3¼	2½	2
Outside diameter flange, in...	17¾	23¼	26½	30½	36	23
Weight of ring and cover, lbs.	42	70	132	190	478	103
Ring only (without cover)...	$3.80	$5.60	$9.10	$13.80	$20.00	$7.00
Ring (with cover).....	7.50	11.10	18.10	27.50	55.00	13.80

"A" PATTERN MEDIUM WEIGHT—Lighter Weight than the Heavy Pattern

Nos.	3A	4A	5A	6A
Ring diameter, inches	20	24	30	36
Weight complete	80	117	224	405
Ring only (without cover), each..	$7.30	$10.00	$18.80	$25.00
Ring and cover, each.....	14.40	20.00	37.50	50.00
Grated covers, each.....	.....	10.00	.....	.....

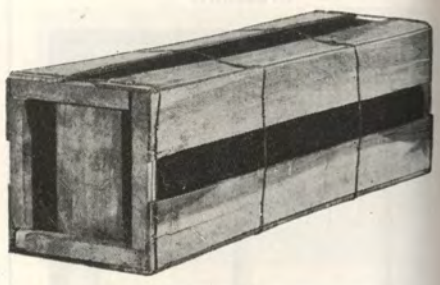
Grated covers for the "A" pattern can be furnished only for the No. 4A

STOVE PIPE

MARTIN

Martin Stove Pipe, like other Martin products, is the leader in its line. It is made of mirror blue stove pipe in a variety of weights.

The Martin Lock is the simpliest, easiest, and most satisfactory lock known. It requires no special tools and can be stored in a small space.



MARTIN X BLUE

(29 Gauge)

Knocked Down—24-inch Joints.

Size	Ship'g Wt.	Per Crate
No. 31—3-inch	27 lbs.	$4.90
No. 41—4-inch	30 lbs.	5.20
No. 61—6-inch	45 lbs.	5.80

Half (12") Joints.

No. 61½—6-inch	25 lbs.	$3.70

Made Up—24-inch Joints.

Size	Jts. in Crate	Ship'g Wt.	100 Joints
No. 31M—3"	200	.. lbs.	$25.00
No. 41M—4"	150	.. lbs.	26.00
No. 61M—6"	50	.. lbs.	28.40
No. 71M—7"	32	.. lbs.	33.80

Half (12") Joints.

No. 61½M—6-in.	.. lbs.	$17.40

MARTIN XX GALVANIZED

(28 Gauge)

Knocked Down—24-inch Joints.

Size	Ship'g Wt.	Per Crate
No. G32—3-in.	42 lbs.	$ 6.70
No. G42—4-in.	48 lbs.	7.50
No. G52—5-in.	56 lbs.	8.80
No. G62—6-in.	68 lbs.	9.75
No. G72—7-in.	80 lbs.	10.40

Made Up—24-inch Joints.

Size	Ship'g Wt.	100 Joints
No. G52M—5"	280 lbs.	$40.50
No. G62M—6"	314 lbs.	42.70

MARTIN XX BLUE

(28 Gauge)

Knocked Down—24-inch Joints.

Size	Ship'g Wt.	Per Crate
No. 32—3-inch	29 lbs.	$5.30
No. 42—4-inch	40 lbs.	5.50
No. 52—5-inch	48 lbs.	5.80
No. 62—6-inch	56 lbs.	6.00
No. 72—7-inch	65 lbs.	7.50
No. 82—8-inch	83 lbs.	9.50

Half (12") Joints.

No. 62½—6-in.	30 lbs.	$3.80

Quarter (6") Joints.

No. 62¼—6-in.	17 lbs.	$2.70

Made Up—24-inch Joints.

Size	Jts. in Crate	Ship'g Wt.	100 Joints
No. 32M—3"	200	.. lbs.	$25.00
No. 42M—4"	150	.. lbs.	26.00
No. 52M—5"	100	.. lbs.	28.40
No. 62M—6"	50	.. lbs.	29.50
No. 72M—7"	32	.. lbs.	35.00
No. 82M—8"	..	.. lbs.	41.60

Half (12") Joints.

No. 62½M—6"	.. lbs.	$21.00

Quarter (6") Joints.

No. 62¼M—6"	.. lbs.	$14.50

MARTIN 4X BLUE

(26 Gauge)

Knocked Down—24-inch Joints.

Size	Ship'g Wt.	Per Crate
No. 64—6-inch	67 lbs.	$7.00
No. 74—7-inch	77-lbs.	8.50

Half (12") Joints.

No. 64½—6-in.	35 lbs.	$4.90

Made Up—24-inch Joints.

Size	Jts. in Crate	Ship'g Wt.	100 Joints
No. 64M—6"	50	.. lbs.	$34.00
No. 74M—7"	32	.. lbs.	40.50

Half (12") Joints.

No. 64½M—6"	.. lbs.	$24.00

RANGE PIPE

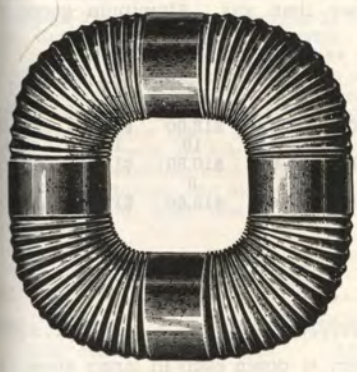
Knocked Down—30-inch Joints.

MARTIN 4X POLISHED

Size	Ship'g Wt.	Per Joint
7-inch	.. lbs.	$0.46

ELBOWS, TAPERS, TEES, ETC.

CORRUGATED ELBOWS



MARTIN X BLUE

(30 Gauge)

Size	Ship'g Wt.	Dozen
No. 30C—3-in.	4 lbs.	$1.40
No. 40C—4-in.	6 lbs.	1.70
No. 50C—5-in.	9 lbs.	1.90
No. 60C—6-in.	14 lbs.	2.10
No. 70C—7-in.	20 lbs.	3.20

MARTIN XX BLUE

(28 Gauge)

No. 62C—6-in.	16 lbs.	$2.50
No. 72C—7-in.	24 lbs.	3.50

MARTIN 4X BLUE

(26 Gauge)

No. 64C—6-in.	20 lbs.	$3.30
No. 74C—7-in.	30 lbs.	4.30

MARTIN XX GALVANIZED

No. G42C—4-in.	7 lbs.	$4.00
No. G52C—5in.	10 lbs.	4.50
No. G62C—6-in.	13 lbs	4.80

ADJUSTABLE ELBOWS

MARTIN XX BLUE

(28 Gauge)

No. 32A—3-in.	4 lbs.	$2.80
No. 42A—4-in.	6 lbs.	3.00
No. 52A—5-in.	8 lbs.	3.30
No. 62A—6-in.	12 lbs.	3.50
No. 72A—7-in.	18 lbs.	4.30
No. 82A—8-in.	30 lbs.	5.50

(26 Gauge)

No. 64A—6-in.	15 lbs.	$4.30
No. 74A—7-in.	20 lbs.	5.20

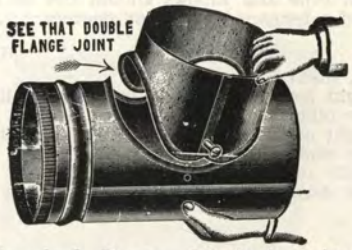
MARTIN XX GALVANIZED

(28 Gauge)

No. G32A—3-in.	5 lbs.	$4.50
No. G42A—4-in.	7 lbs.	5.00
No. G52A—5-in.	9 lbs.	5.60
No. G62A—6-in.	13 lbs.	5.90
No. G72A—7-in.	20 lbs.	6.20

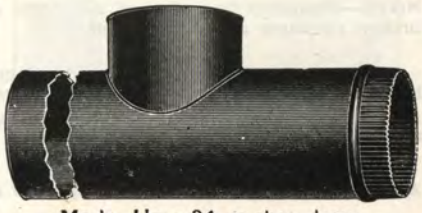
TEE JOINTS

MARTIN XX BLUE



Knocked Down—12 inches long

Size	Ship'g Wt.	Dozen
No. 62½T—6-in.	2 lbs.	$5.00



Made Up—24 inches long

No. 62MT—6-in. 2½ lbs. $7.10

REDUCERS

MARTIN XX BLUE—ROUND

No. 0—6 to 3; Wt., doz. 8 lbs. Doz. $3.80
No. 4—6 to 4; Wt., doz., 9 lbs. Doz. 4.00
No. 1—6 to 7; Wt., doz. 10 lbs. Doz. 4.50

MARTIN XX BLUE OVAL

ONE-PIECE REDUCERS

No. 21—Made from one piece of sheet steel. Rigid and does not come apart. Per dozen $3.00

TAPER JOINTS

MARTIN X BLUE

Size	Ship'g Wt.	Per Joint
Knocked Down—24-inch Joints.		
No. 761—7x6	55 lbs.	$0.30
Made Up—24-inch Joints.		
No. 761M—7x6	29 lbs.	$0.36

MARTIN 4X BLUE

Knocked Down—24-inch Joints.		
No. 764—7x6	70 lbs.	$0.36
Made Up—24-inch Joints.		
No. 764M—7x6	.. lbs.	$0.42

MARTIN XX BLUE

Size	Ship'g Wt.	Per Joint
Knocked Down—24-inch Joints.		
No. 762—7x6	60 lbs.	$0.32
12-inch Joints.		
No. 762½—7x6	32 lbs.	$0.22
Made Up—24-inch Joints.		
No. 762M—7x6	.. lbs.	$0.38
12-inch Joints.		
No. 762½M—7x6	.. lbs.	$0.28

STOVE PIPE AND ELBOWS

ALUMINUM

Aluminum Pipe and Elbows will last indefinitely. Gas fumes seemingly have absolutely no effect on Aluminum. Aluminum Pipe and Elbows should not be installed in connection with heaters using fuels other than gas. Aluminum goods will stand a temperature of 500 degrees.

MADE-UP STOVE PIPE, ELBOWS AND COLLARS

Size, inches	3	4	5	6	7
Weight per dozen pipe 24 inches long, lbs.	8¾	12¼	18¼	20	24
Price pipe 24 inches long. Per dozen	$14.00	$14.40	$18.00	$26.40	$29.00
Weight per dozen pipe 12 inches long, lbs.	7	8½	10	12½	14
Price pipe 12 inches long. Per dozen	$8.00	$8.40	$10.80	$14.40	$16.00
Weight per dozen Adj. Elbows 4 piece, lbs.	4	5	8	11	13
Price Adj. Elbows 4 piece. Per dozen	$8.40	$10.00	$15.60	$18.00	$22.00

TAPER JOINTS 24 INCHES LONG

24-inches long—Price of full joint large end, plus 20%

12-inches long—One half price of full taper, plus 20%

NOTE—Standard packages of all items contain one dozen each of sizes 5 inch and smaller; ½ dozen each in larger sizes. For broken packages add 10 per cent.

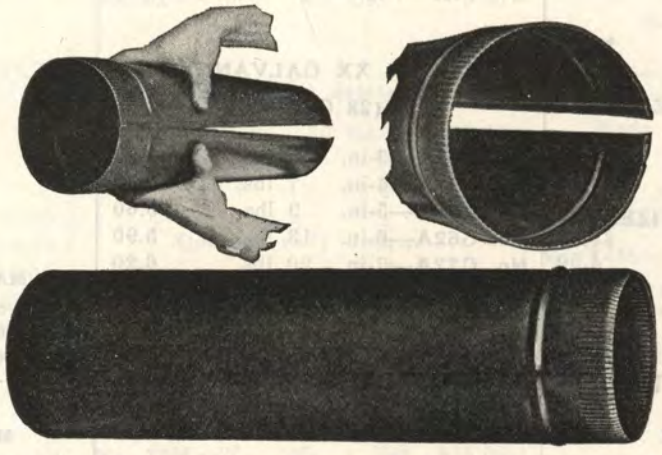
Pipe and Elbows are wrapped. Packed in dozen lots, one dozen to a carton in sizes 5 inch and smaller and half that number in larger sizes. Made of 24 gauge pure Aluminum—bright finish. Tees made to order at price of two full joints each.

Owing to their light weight these goods can be shipped by express or parcel post at moderate cost. Sold only in full cartons.

COLLARS

All sizes (9 inch outside diameter)—Per dozen $6.00

MARTIN SNAPPER



"Martin Snapper" the most practical of all nested stove pipe! A lock the full length of joint can be cut into any fractional length and still be "Martin Snapper". Outside surface perfectly smooth. No folds, slots, grooves, notches, lugs or buttons on outside of pipe.

No tools, no hammering, no rivets, cannot collapse or expand.

No. 628S—28 gauge, 6 inch, per crate $5.30
No. 728S—28 gauge, 7 inch, per crate 6.60
No. 626S—26 gauge, 6 inch, per crate 6.30
No. 726S—26 gauge, 7 inch, per crate 7.60

25 joints to a crate. We do not break crates.

INSTRUCTIONS FOR ASSEMBLING S NAPPER STOVE PIPE

1. Lay pipe on table seam side up and smooth end against body.
2. Grasp crimped end of pipe firmly with thumbs on top close to seam and with fingers inside of pipe.
3. Insert lip in groove to start lock at end of pipe, and push together as far as possible.
4. Change position of hands, moving thumbs along seam and fingers around pipe. Press firmly downward and together, moving hands gradually toward body. Do not attempt to snap lock during this operation but see that lip is pushed well into groove the full length of pipe.
5. Return hands to position as described in paragraph 2 and force seam together until it snaps into place. Turn pipe end for end and snap smooth end together in exactly the same manner.

STOVE SUNDRIES

STOVE BOARDS

Wabash "Marbleized" stove boards have been designed to harmonize with the new color note in the home. Like the modern kitchen range, these boards employ pleasing graining effects in cream, black, and green to produce a marbleized effect which adds color, and harmonizes with other objects in the room. These boards are recommended for use—not only in the kitchen—but wherever a note of color would lend character to the room.

No. 15—(Wood Lined) Square

Inches	26x26	28x28
Wt., doz. lbs.	109	126
Per dozen	$27.90	$32.50

Inches	30x30	33x33	36x36
Wt., doz. lbs..	143	172	202
Per doz.	$37.70	$44.60	$52.70

No. 18—(Wood Lined) Oblong

Inches	24x36	26x32
Wt., doz. lbs.	131	132
Per dozen	$38.80	$33.60

Inches	28x34	30x38	32x42
Wt., doz. lbs..	153	173	208
Per dozen ...	$36.50	$44.90	$51.70

No. 21—(Paper Lined) Square

Inches	26x26	28x28
Wt., doz. lbs.	109	126
Per dozen	$15.60	$17.50

Inches	30x30	32x32	35x35
Wt., doz. lbs..	143	172	202
Per dozen ...	$20.40	$24.20	$30.00

No. 24—(Paper Lined) Oblong

Inches	26x30	28x34	30x36
Wt., doz. lbs..	125	153	170
Per dozen ...	$20.50	$23.20	$27.70

BROWN DIAMOND

24x24—Per dozen $5.00
26x26—Per dozen 5.80
28x28—Per dozen 7.20
30x30—Per dozen 8.50
26x30—Per dozen 7.60
28x34—Per dozen 9.20

New Walnut Stove Board—Paper-lined
Very similar in design, coloring and finish to Numbers 89 and 94 boards but paper-lined in place of wood-lined. A persistent demand for a board of this type has resulted in its addition this year.

No. 97—Walnut—Paper-lined
26x26—Per dozen $13.90
28x28—Per dozen 15.80
30x30—Per dozen 17.90
32x32—Per dozen 20.20
35x35—Per dozen 25.00

No. 101—Walnut—Paper-lined.
26x30—Per dozen $16.30
28x34—Per dozen 19.40

Enameled Stove Boards

Mahogany and Walnut Enamel Stove Boards finished in special baked enamel, grained to represent wood. Primarily made to match enameled heating stoves, but also very attractive for use with any stove. Wood lined, non-warping construction.

Square Pattern

No. 88 Mahogany	No. 89 Walnut	
Inches	28x28	30x30
Wt., doz., lbs.	126	143
Per dozen	$33.80	$39.10
Inches	33x33	36x36
Wt., doz., lbs.	172	202
Per dozen	$46.40	$54.70

Oblong Pattern

No. 91 Mahogany		No. 94 Walnut	
Inches	24x36	26x32	28x34
Wt., dz., lbs...	131	132	153
Per doz.	$36.30	$35.00	$40.00
Inches		30x38	32x42
Wt., dozen, lbs.		173	208
Per dozen		$46.70	$53.70

Paper Lined.

Made from selected coke tin plate mounted on heavy red express paper. Paper lined boards are made with rope moulded edges. Tin Plate is crystallize-, excepting the design, which is left in bright finish, covered with highest grade baking varnish, producing a silver effect.

No. 9—Square Pattern.

Size, inches	24x24	26x26
Wt., dozen, lbs.	34	42
Per dozen	$14.40	$15.70

Size, inches	28x28	30x30	32x32	35x35
Wt., doz., lbs.	47	52	59	82
Per dozen ..	$17.70	20.70	24.60	30.50

Paper lined crystal stove boards are marked according to the size of blanks from which they are made. One dozen in a case.

STOVE MICA

This assortment contains a stock of the most popular sizes put up one sheet in an envelope and packed in a neat display cabinet. The assortment consists of:

10 sheets, 2 x3	10 sheets, 2 x4
25 sheets, 2½x3	25 sheets, 2½x3½
15 sheets, 2½x4	25 sheets, 3 x3
15 sheets, 3 x3½	40 sheets, 3 x4
5 sheets, 3 x4½	5 sheets, 3½x3½
10 sheets, 3½x4	10 sheets, 3½x5
5 sheets, 4 x4	5 sheets, 4 x5

Per assortment $22.75

List Revised January 26, 1922.

		Pound	Sheet
2½x2½	inches	....$7.75	$....
2 x3	inches	.... 7.25	.04
2 x3½	inches	.... 8.00	.05
2 x4	inches	.... 9.25	.06
2½x2½	inches	.... 7.75	.05
2½x3	inches	.... 9.50	.06
2½x3½	inches	....10.75	.07
2½x4	inches	....12.00	.09
3 x3	inches	....12.00	.09
3 x3½	inches	....13.00	.11
3 x4	inches	....15.00	.14
3 x4½	inches	....15.50	.15
3 x5	inches	....16.00	.17
3½x3½	inches	....15.00	.15
3½x4	inches	....16.00	.17
3½x4½	inches	....16.50	.20
3½x5	inches	.....	.22
3½x6	inches	....13.00	.25
4 x4	inches	....17.00	.20
4 x5	inches	....18.00	.25
4 x6	inches	....20.00	.35

Other sizes from factory.

Packed one sheet in an envelope and one-quarter pound in a package

COAL HODS

Japanned, Open.

No. 117—17 inches. Weight, per dozen, 27 lbs. Per dozen $7.40

No. 118—18 inches. Weight, per dozen, 30 lbs. Per dozen $7.80

Half dozen in a bundle.

Galvanized, Open.

No. 617—17 inches. Weight, per dozen, 34 lbs. Per dozen $9.20

No. 618—18 inches. Weight, per dozen, 38 lbs. Per dozen $10.00

No. 620—20 inches. Weight, per dozen, 50 lbs. Per dozen $13.20

Half dozen in a bundle.

An extra heavy galvanized hod for especially hard usage. Very strongly consrtucted throughout.

No. 86—18 inches; weight, per dozen, 50 lbs. Per dozen $14.00

COAL HODS

The

MODERNE SANICO

A new "console" type coal and wood range which is constructed in accordance with regular Sanico standards of super-fine quality and yet is Priced to Sell!

We are sure you will agree that Sanico has again Earned the Distinction of Producing

America's Most Beautiful Range

For complete information see pages 8 and 9 of this catalog.

STOVE SUNDRIES

STOVE SHOVELS

JUMBO

Jumbo—Made of extra heavy Bessemer steel, fitted with extra strong wrought iron handle. Length 21¼ inches over all, length of scoop 8 inches, width 5 inches, depth 2½ inches. Weight, per gross, 140 pounds. Finish, black baked Japanned. Per dozen $2.50

IXL

Double Handle.

No. 1—IXL, steel, Japanned, length 22 inches, scoop 5x8½ inches. Wt., per doz. 13¼ lbs. Per dozen $2.80

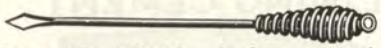
No. 2—IXL, steel, Japanned, length 25 inches, scoop 5½x9 inches. Wt., per dozen, 16 lbs. Per dozen $3.20
Half dozen in a bundle.

No. 57—Victor Japanned, length 23 inches, size of scoop 5x8 inches. Weight, per dozen, 10½ pounds. Per dozen..$1.80

Vulcan.

No. 80—Vulcan, Japanned, length 15 inches, size of scoop 4¾x7 in. Wt., doz., 5 lbs. Per doz.....$0.90

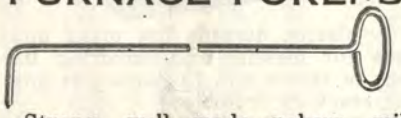
FIRE POKERS



No. 4S—¼x20 inches, straight, wrought iron, wire handle, with ring, all nickel-plated. Weight, per dozen, 7 lbs. Per dozen $1.50
No. 404S—⅜x28 inches, straight, with wire handle and ring, all nickel plated. Weight, per dozen, 14 lbs. Per dozen $4.00

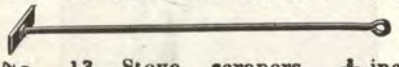
No. 1B—¼x20 inches, bent, wrought iron, wire handle with ring, all nickel plated. Weight, per dozen, 7½ lbs. Per dozen $1.50

FURNACE POKERS



Strong, well made pokers, mill finish.
No. 605—Length, 60 inches; diameter, ½-inch. Weight, per dozen, 45 lbs. Per dozen.....$8.00
No. 161—Same as No. 605 but straight. Per dozen $8.00

STOVE SCRAPERS



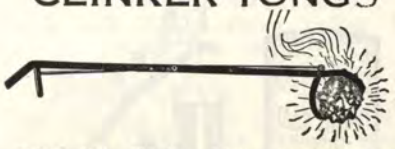
No. 13—Stove scrapers, ⅛-inch wrought iron rod, 30 inches long. Wt., dozen, 3¼ lbs. Dozen..$1.50
All above, one dozen in a bundle.

STOVE COVER LIFTERS

No. 2—Alaska, nickel-plated, gray iron shank, wire handle. Weight. per dozen, 5 lbs. Per doz.....$1.40
One dozen in a box.

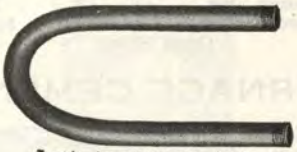
No. 5N—Nickel-plated, selected castings, wire handle. Weight, per dozen, 5 lbs. Per dozen $1.20
One dozen in a box—Open stock.

CLINKER TONGS



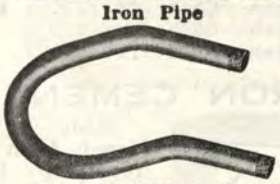
With this Clinker Tong you can reach into the furnace and remove hot clinkers with ease. As necessary as a poker or shovel. It is constructed of heavy steel and the jaws are pointed so that any shape clinker can be handled. Length, 39 inches. Finished in black and red.
No. 94—Shipping weight, per box, 26 lbs. Per dozen $9.00
Packed 12 to a box.

STRAIGHT BOILER COILS
Iron Pipe



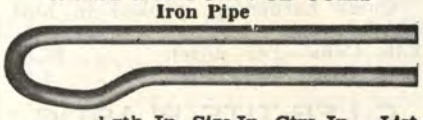
	Lgth. In.	Size In.	Ctrs. In.	List
No. 1	14½	1	9	$1.80
No. 2	14½	1	9½	1.80
Brass Pipe				
	Lgth. In.	Size In.	Ctrs. In.	List
No. 10	14½	1	9	$5.30
No. 11	14½	1	9½	5.30
No. 12	14½	¾	9	4.50
No. 13	14½	¾	9½	4.50

OFFSET BOILER COILS
Iron Pipe



	Lgth. In.	Size In.	Ctrs. In.	List
No. 3	14½	1	9	$2.00
No. 4	14½	1	9½	2.00
Brass Pipe				
	Lgth. In.	Size In.	Ctrs. In.	List
No. 14	14½	1	9	$5.80
No. 15	14½	1	9½	5.80
No. 16	14½	¾	9	5.00
No. 17	14½	¾	9½	5.00

WARM AIR FURNACE COILS
Iron Pipe



	Lgth. In.	Size In.	Ctrs. In.	List
No. 5	24	¾	2½	$2.70
No. 6	27	¾	2½	2.85
No. 7	30	¾	2½	3.00
Brass Pipe				
	Lgth. In.	Size In.	Ctrs. In.	List
No. 18	24	¾	2½	$5.80
No. 19	27	¾	2½	6.20
No. 20	30	¾	2½	3.60

Justrite one-piece coils have no fittings to burn out. They have a clear water way from end to end and will not lime up as quickly as old-fashioned coils.
Brass coils will outlast Iron Coils and heat much faster.

STOVE SUNDRIES

CARBONOID

Destroys soot in the chimney, range, stove or furnace. Insures perfect combustion, saves fuel and gives more heat, prevents rust in pipes. It is perfectly harmless and any woman can use it. No taking down of pipes, or shutting down of fire to clean out the soot. Just pour a little on red hot coals.

Size, Pkg.	14 oz.	Con'tr.	2 lb. can
Wt., dozen., lbs.	.....	8	27
Per dozen	.....	$3.00	$6.00

Open Stock

FURNACE CEMENT

A quick setting asbestos furnace cement. Especially suitable for repair work and is also good for setting up furnaces and stoves. Does not shrink when subjected to heat.

1 lb. can—Each.....$0.25
5 lb. can—Each..... .90
10 lb. can—Each..... 1.75

IRON CEMENT

Made in powdered form for repairing leaks or breaks in castings and for making connections in steam or hydraulic work; it withstands fire, water, steam, or petroleum and very high pressures. Applied as No. 1 Smooth-On.

Quick hardening, packed in blue labeled cans.

1-lb. Cans—Per dozen $9.60
7-oz. Cans—Per dozen 5.50

C-LER-TITE PLASTIC IRON CEMENT

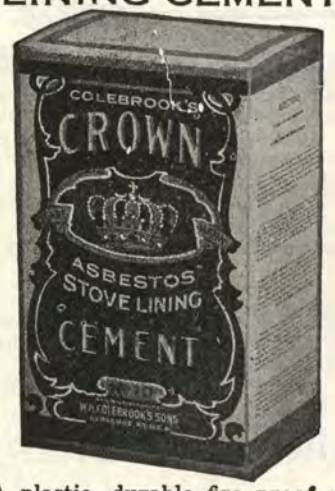
In Powder Form

Mends Leaks, cracks or breaks in steam and hot water pipes, furnaces, boilers, etc. Makes permanent screw thread joints. Repair leaks in auto radiators and water jackets, mends exhaust pipes or mufflers and serves many other purposes. Ideal for cementing or mending almost any breaks in iron.

C-Ler-Tite Plastic Iron Cement—Per dozen $1.50

1 dozen packages in a carton.

ASBESTOS STOVE LINING CEMENT



A plastic, durable fire proof mixture for making and repairing linings in stoves and furnaces. It does not crack or crumble.

3 lb. papers—Per dozen $4.40
6 lb. papers—Per dozen 7.20

PATCHING PLASTER
Universal

For repairing damaged walls and filling cracks and crevises. Universal Patching Plaster is made of quality ingredients, scientifically compounded to serve the needs of the painter and decorator, as well as th layman. Can be applied readily and economically.

Ideal for Old Walls

For repairing old walls, Universal Patching Plaster will give a hard, tough surface that can be painted, calcimined or papered. Easy spreading, quick drying and less shrinkage are the distinctive qualities of Universal Patching Plaster.

The beautiful new package helps sell universal patching plaster and is a real convenience as a small quantity can be used, the cover replaced and the remainder of contents kept perfectly until needed again.

2½ pound size—Per dozen.....$3.00
5 pound size—Per dozen 5.00

Beautiful counter display cards furnished on request—No charge.

PATCHING PLASTER

Rutland.

This is a material to be used by decorators and others in repairing plastered walls and in jointing and patching stucco and brick surfaces. It sets slowly enough to be handled and worked for from 10 to 15 minutes, so that patches of considerable size can be trowelled and finished satisfactorily.

No. 3—Weight, 2½ pounds. Per dozen $3.60
No. 6—Weight, 5 pounds. Per dozen 6.00
No. 10—Weight, 8 pounds. Per dozen 8.40
No. 15—Wt., 15 lbs. Per dozen...$12.00

No. 3—2 dozen to a case.
No. 6—1 dozen to a case.
No. 10—½ dozen to a case.
No. 15—⅓ dozen to a case.

CONCRETE PATCHER

Rutland.

Saves time, trouble, money and annoyance. It's easy to use. It comes in handy sizes and requires just the addition of water to prepare it so that any amateur can make a clean, strong patch. Some of the uses of Rutland Concrete Patcher: Repairing breaks in sidewalks and cement floors. Stopping leaks in cisterns and concrete tanks. Filling holes and stopping leaks in concrete foundations. Patching breaks in concrete steps. Pointing up joints in brick and stone masonry. Setting loose tiles. Constructing drains for spouts and other outlets. Performing tree surgery. Stopping rat holes and vermin cracks. And should be used for any other repair job requiring the use of concrete.

No. 3—Size, 2½ pounds. Packed 2 dozen to a case. Per dozen...$3.60
No. 5—Size, 5 pounds. Packed 1 dozen to a case. Per dozen...$6.00

STOVE SUNDRIES

STOVE TRUCKS

Baltzly's.

No. 24—Baltzly's stove trucks, steel frame, Japanned. Weight, each, 45 lbs. Each $16.00

Open stock.

The No. 24 Truck can also be supplied with rubber tires at an extra charge of $9.00.

STOVE CASTERS

Bassick

No matter how you bang it the Harvard Steel Stove Caster will always stand up—always ready for duty. All steel reinforced construction—with high-grade ball bearing casters that will swivel under any stove. The cup is sufficiently large to contain stove legs of any type. Also designed for use under cabinet type stoves or general utility purposes in moving heavy cases, etc.

No. 700—Weight, per set of four, 3½ lbs. Per set $1.75

STOVE SHAKER ASSORTMENTS

Malleable Crank Shakers.

Nickeled—For Duplex Grates.

Crank Shaker Assortments—

Each assortment contains 6, ⅝ inch square opening, 3, ¾ inch triangular and 3, ¾ inch square opening shakers. Per assortment $5.20

All sizes open stock. Per doz....$6.00

Open Stock

⅝-inch Square—Per dozen $6.00
¾-inch Square—Per dozen 6.00
⅝-inch Triangular—Per dozen 6.00
¾-inch Triangular—Per dozen 6.00

STOVE SHAKER ASSORTMENTS

Two-in-One—Nickel Plated.

This stove shaker assortment is especially adapted to the hardware and stove repair trade; each end is a shaker and besides stoves mentioned there are dozens of other makes that the two-in-one will fit. Each manufacturer does not always have a definite and particular shaker that is adapted to his line only, so that a dealer handling these two-in-one shakers has not only twenty-four shakers in one dozen, but he has a line that will fit satisfactorily many times twenty-four makes of stoves.

Two-in-One—Assortment contains 1 dozen shakers, 1 each of the styles listed. Per assortment $3.90

Note—We do not break assortments.

No. B12 fits Garland, etc.
No. B37 fits Buck's, etc.
No. B33 fits Garland line, with triangular crank on one end, with draw center shaker on the other.
No. B36 fits Stewart line, ⅝-inch square crank on one end, with two prong draw center on the other end.
No. B21 fits Penninsular, etc.
No. B38 fits Laurel line, etc.
No. B44 fits Brand's, etc.
No. B35 fits Junior Oak, etc.
No. B41 fits Ratbone-Sard "Acorn" line, etc.
No. B16 fits Jewett's and Estate hard coal heaters, etc.
No. 49 fits Fuller & Warren "Junior Oak" two prong heaters, etc.
No. 43 fits "Favorite" two prong heaters, etc.

STOVE POLISH

Black silk liquid stove polish in screw top cans.

No.	6
Size can..	6 oz.
Doz. in case	3
Wt., case, lbs.	18½
Per dozen	$2.25

No.	8
Size can..	½ pt.
Doz. in case	3
Wt., case, lbs.	22½
Per dozen	$3.50

Nos.	5	20
Ap. size of can	5 oz.	5 lbs.
Contents of case, doz...	3	½
Wt., per case, lbs.	14½	35
Per dozen	$2.50	.....
Per can	.....	$2.00

Rising Sun—Small size cakes. Wt., per case, 39 lbs. Per gross $15.00
Half gross in a box.

No. 4—¾x3½ inch tin boxes. Wt., case, (¼ gross) 12 lbs. Per gross $15.00
No. 6—1¼x3½ inch tin boxes. Wt., case (¼ gro.) 21 lbs. Gross $23.00

FLOUR CITY

This is a high-grade, jet black, liquid Stove Polish, packed in full 6 ounce Screw Top cans. Guaranteed equal in quality to Black Silk or any other.

No. 66—Per can $0.10
(3 doz. 6 oz. cans in a case)

STOVE PIPE ENAMEL

FLOUR CITY

This is a bright, glossy, black enamel of fine quality. Exceptionally durable. Recommended especially for use on stoves and stove pipe as well as on any interior or exterior metal surface where a glossy black protective finish is desired.

No. 77—Per can $0.10
(3 doz. 6 oz. cans in a case)

STOVE SUNDRIES, ETC.

STOVOIL

A high grade preparation performing four operations in one. It removes and prevents rust, cleans and polishes. It is applicable to any metal surface including iron, steel, brass, bronze nickel, copper and silver. Its action upon metal after removing rust is to form a very thin polished protective coating over the surface.

Stovoil—Put up in 4 oz. bottles. Wt., per carton, 26 lbs. Per dozen..$6.24

IRON ENAMEL

GLOSS BLACK

Complete Assortment with Miniature Range. The most modern eye-catching miniature stove (size 16¾ inches Long 9½ inches high, 5½ inches deep), made of tested sheet steel attractively lacquered in jade green, with stovepipe partly enameled and three cans attached, with compartments in rear for handy stock purposes.

No. 15—¼ Pt. Per dozen $1 80
No. 25—½ Pt. Per dozen 3.00
No. 70—Quart. Per dozen 8.40

STOVE POLISH

Fyr-Pruf.

Fyr-pruf stove and nickel polish will blacken the stove and shine the nickel parts at one time from the same can. Applied with cloth or brush, and with little labor — no dust —no odor — no rust — it produces a most beautiful and lasting lustre.

Fyr-Pruf—Per dozen 2 80
Fyr-Pruf—Per case (3 doz.)..$8.00

STOVE ENAMEL

BLACK SILK

Black Silk Iron Enamel—½ pint cans with brushes. Per dozen $4.00

Three dozen in a case. Weight, 24 lbs.

STOVE ENAMEL

Black Jack.

A ready for use, liquid preparation for application to stove pipes, stoves, ranges and furnace trimmings. An excellent article for a durable jet black gloss.

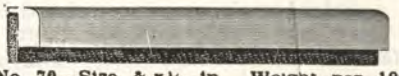
Will cover approximately 500 square feet to the gallon, one coat.

	Qts.	Pts.
Per can	$0.90	$0.55
	½ Pts	¼ Pts.
Per can	$0.35	$0.25

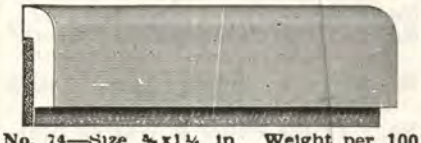
WEATHER STRIPS

Double Contact Felt.
Bosley's Clincher.

This strip is known as "double contact" because the felt makes contact at both the bottom and edge. There is no space for cold winds to blow through. Made of selected kiln dried, oil stained wood moulding with heavy, all wool, mothproofed felt glued to the bottom of the moulding. Note that when applied, the nails are driven through both moulding and felt. In this way the felt is held firmly in place with no chance of loosening. All sizes carried in 7 ft. lengths only; packed 252 in a fibre shipping container.



No. 70—Size ⅝x½ in. Weight per 100 feet, 3 lbs. Per 100 feet $5.00
No. 71—Size ⅝x¾ in. Weight per 100 ft. 4½ lbs. Per 100 feet $5.00
No. 71½—Size ⅝x1 in. Weight per 100 ft., 6 lbs. Per 100 feet $7.00



No. 74—Size ⅝x1¼ in. Weight per 100 ft., 8 lbs. Per 100 .....$10.00
No. 75—Size ⅝x1½ in. Weight per 100 feet. 10 lbs. Per 100 feet $12.00

FLEXIBLE FELT

Felt Casing, Air Proof, Paper and Cotton Cushion Lining.

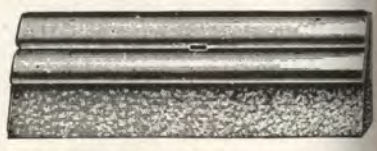
No. 13 S. & Q.—⅝-inch, flexible felt for top and sides of door, 75 feet on a reel, two reels in a box. Weight per box, 3 lbs. Per 100 feet....$5.00
150 feet in a box.

No. 14 S. & Q.—¾-inch, flexible felt for inside bottom of doors, 50 feet on reel, 2 reels in a box. Weight per box, 2½ lbs. Per 100 ft...$5.00
100 feet in a box

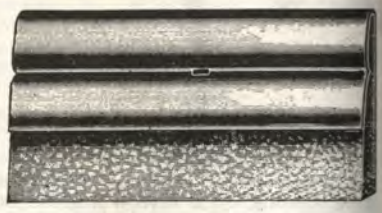
WHITE METAL-FELT WEATHER-STRIP
Protecto

Rustless metal scientifically shaped with a good grade of felt. At a glance anyone can see that it is weatherstrip. Publicly accepted; greatest eye appeal, most rugged strip made. No rule measurements required to cut strip. Nailing line close to top makes strip ⅔ available.

½-inch Size—Will strip a Double Hung Sash complete, all inside application, no removing sash. Can also be used on hinged sash, 252 feet to the carton—36 seven foot lengths, shipping weight, 10½ lbs. Per 100 feet $3.00



¾-inch size—Strip for top and sides of doors. 252 feet to the carton—36 seven foot lengths. Shipping weight, 15 lbs. Per 100 feet $4.00



1½-inch Size—Strip for bottom of doors, 125 feet to the carton, 11 seven foot lengths and 8 six foot lengths, shipping weight, 16 lbs. Per 100 feet $8.00

With 1 carton of each of above (1 Sample Display—No Charge—more attractive and complete than any ever shown.)

WEATHER STRIPS

HOME COMFORT CUSHION WEATHERSTRIP

This is the Weatherstrip that dealers have learned it pays to handle. Home Comfort Cushion Weatherstrip is made of a high grade special rubberized fabric and a high-grade insulating material. Rigid four-ply tacking lap and double reinforced sewing. Rustless Enameled tacks to match included in price. Comes in lengths of 500 feet on three color lithographed steel display reels, or 100 feet in coils. Attractive sales stand furnished free with 500-foot reels.

500-foot reels—Per 100 feet $5.00
100-foot coils—Per 100 feet 5.20

with initial order of 500 ft. or over.
over.

Display rack and reel furnished free

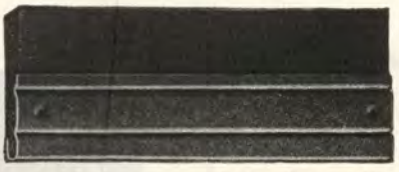
SERVALL

Security Weatherstrip is similar to Home Comfort but is made of cheaper materials. It will not give the same service as Home Comfort but is a good value at the price offered and meets the demand for a cheaper competitive item. In 500-ft. reels with tacks.

500-ft. reels—Per 100 ft.....$3.00
Cut Lengths—Per 100 feet 3.50

DOOR BOTTOM STRIPS

Bosley's



Bosley's "Brass-and-Felt" successfully closes one of the worst openings the weather stripper has to deal with —the crack between the bottom of a door and its sill. Durable felt pressed by the closed door firmly against the door-sill, effectively stops all draft at this joint. The solid brass stripping which clamps the felt, preserves the whole strip from damage keeping it firmly in place. Mothproof.

32-inch—Per dozen $5.00
36-inch—Per dozen 6.00
42-inch—Per dozen 7.00

HOME

Made of 31 gauge double hemmed edge tension spring bronze. The gauge and tension of the bronze meets the exact requirements of a good weatherstrip. Reducing the gauge or thickness shortens the life and spring of the metal and in a short time it ceases to function as a weatherstrip. Each carton contains 4 boxes of copper plated weatherstrip nails manufactured especially for this purpose which will not easily pull out. All Home weather strip will have proper size nail holes punched clear through the strip every 1¼ inches to insure ease in nailing as well as proper efficiency. The cartons are made so that the strips can easily be uncoiled and measured in the retail stores without removing the coil from the carton.

The 1¼ inch can be successfully used on all doors and windows 1⅜ inch and wider. The ⅞ inch should be used for only the narrower doors and casements. Each carton contains a 100-ft. coil. This size will take care of approximately five windows or five doors.

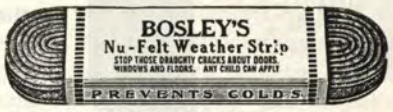
¾-inch—Per 100 feet $3.30
1 -inch—Per 100 feet 3.90
1¼-inch—Per 100 feet 4.50

THERMWOOL

Thermwool is a non-inflamable windproof, waterproof and mothproof. Weatherstrip of great tensible strength. Put up in 10 ft. lengths in an attractive package.

No. 25—25c retail. Per doz. pkgs..$1.75
No. 75—75c retail. Per doz. pkgs.. 4.50

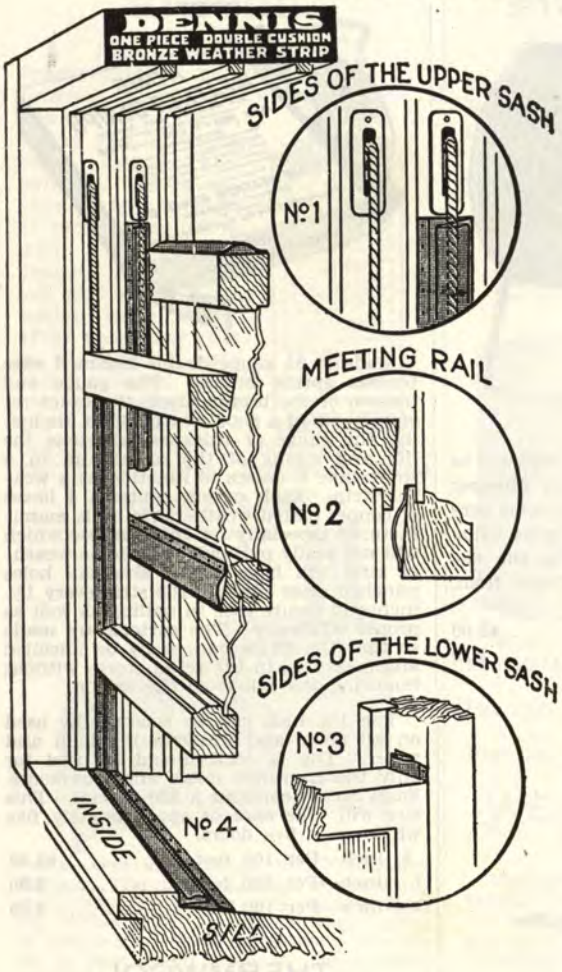
NU-FELT



A good grade of felt for use as weather stripping. Very easily applied. Put up in cartons of 10 feet each.

Cartons—Per dozen $1.50

ALL METAL WEATHER STRIP

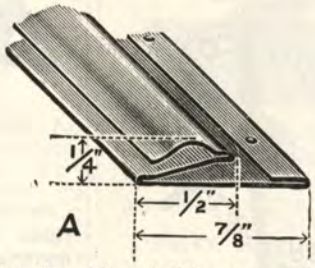


The Dennis Double Cushion Spring Bronze All Meetal Weather Strip as illustrated is different in construction from others. As you will note that styles A, E, and D metal is folded S shape which gives a double spring action, preventing the contact part of the weather strip from losing its resilience, which means that you are always sure to get a tension to keep out the wind, rain, snow and dust.

SAVES ½ FUEL

"S" Shape Fold Gives Double Spring Action

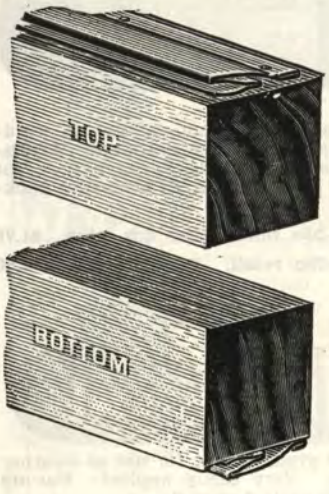
Stops cold air leaks. Makes snug weather-proof seal conforming to all warping, shrinkage and expansion of sash and doors. Spring bronze that lasts forever.



Style A is used for the sides of the upper window sash. Run the weather strip up to the bottom of the sash pulley as illustration No. 1. Apply with "S" shaped fold out nailing flange against the stop that separates the two window sash. Style A is also used on the sill under the lower sash, applied as illustration No. 4, nailing flange out.

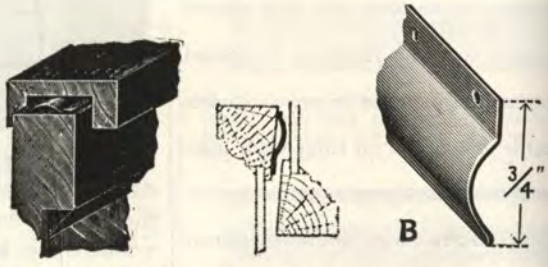
A Style—Size 1 inch for windows is applied to the window frame against the stop and between the edge of sash and frame, or on the sill underneath the bottom of the lower sash. Style A reversed is also used on casement windows at top, bottom and hinge sides, 5, 6, 7 and 8-foot lengths, 252 feet in a tube. Complete with flat head copperweld nails. Weight 18 pounds, per tube. Per 1,000 feet $90.00

Style A Reversed is used to weather strip the sides of the lower sash. Apply to the window frame S shaped fold against the frame, nailing edge toward the inside, strip to compress in between edge of window sash and frame when sash is closed. Use flat head copperweld (rust proof) nails applied 3 inches apart. Keep S shaped fold free from parting stop so that it will not bind when strip is compressed after sash is closed. Cut strip ½ inch longer than sash, as illustration No. 3.



Style A—(Reversed) and applied to the top, bottom and hinge side of casement windows, also on lock side if not rabbeted.

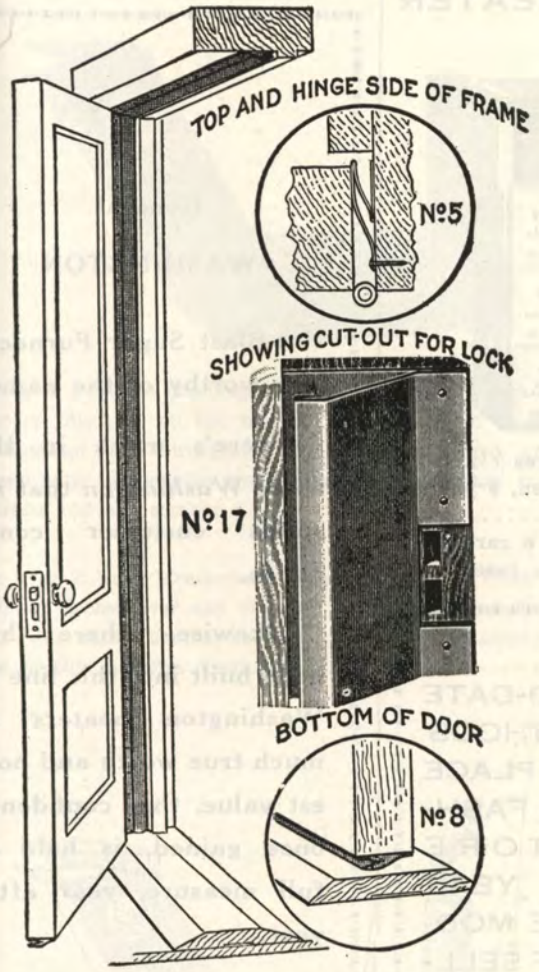
If bottom of casement is rabbeted use **Style E** applied to the frame.

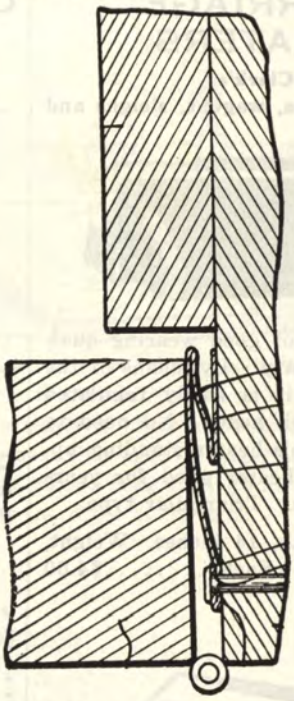


Style B—is used to weather strip the meeting rail and top of upper window sash. Apply to the top of the upper sash as illustrated. Also nail the strip to the meeting rail at the bottom of the upper window sash as illustration No. 2.

B Style—¾ inches wide, 6, 7 and 8-foot lengths is used for closing the joint between the two sash, applied to the bottom of the upper sash on the inside so that the strip will close in between the two sash. Also used for tops of window sash. Apply to the sash itself at top, 252 feet in tube. With flat head copperweld nails. Weight, 10 lbs. per tube. Per 1,000 ft..$60.00

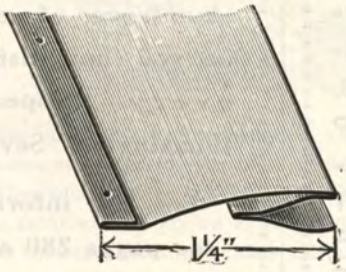
ALL METAL WEATHER STRIP





The above cut illustrates the Style D, applied to the hinge side of the door with door closed showing the double contact feature. Metal strikes both door and frame.

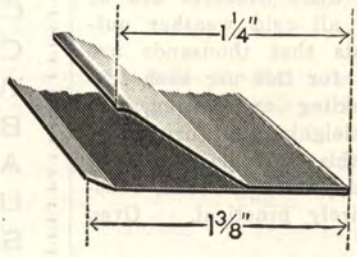
STYLE D FOR HINGE SIDE OF DOORS



D Style—1¼ inches wide, 6, 7 and 8-foot lengths. We recommend this style for the hinge side, top and bottom of door.

Style D is also used for the sides of the lower sash. This Style D has an adjustable contact edge automatically adjusts itself to make a practical weather strip installation. Packed 252 feet in tube, with flat head copperweld nails. Weight, 19 lbs. per tube. Per 1,000 feet $100.00

STYLE T FOR LOCK SIDE OF DOORS



Style T—7 and 8-foot lengths, 1⅜ inches. Recommended to close the opening between door and frame on the lock side of door. Apply as illustrated, with projecting bottom flange of weather strip tight against stop or rabbet. Cut out for lock catch as illustrated. Construction of Style T with projecting flange assures a perfect fit without binding. Packed 252 feet in tube. Weight, per tube, 20 lbs. Complete with nail. Per 1,000 feet $125.00

WEATHER STRIPS, HEATERS, ETC.

CARRIAGE HEATERS

Clark's.

For carriages, wagons, sleighs and automobiles.

Covering is of good wearing quality taupe tapestry. By means of the heat controls it is easily regulated for low or high heats. No need to worry about this heater standing up A dependable heater good for years of hard service. Triangular type.

No. 7C—Length, 14 inches. Weight, each, 6¼ lbs. Each.....$4.00

To meet the big demand for Clark All-Day Heaters by spectators at college football games, these heaters are made with special covering in the colors of the leading colleges. Name of the college stitched on in flannel standard lettering across the top of the heater. Clark Heaters are so practical for all cold weather out-of-door events that thousands are being bought for this use each season. For skiing or skating, for shooting or sleighing, for drivers or passengers, this portable heater is invaluable—dependable, safe, economical, entirely practical. Oven type.

No. 3D College—Length, 14 inches. Weight, each, 4¾ lbs. Each..$4.00

When ordering, please specify plainly that these are to be the College Special—and give the name of the college. No shipment will be made of less than six College Special Clark Heaters.

CARRIAGE HEATER COAL

CLARK
CLARK
CLARK
THE CELEBRATED
CLARK CARBON
KING OF CARBON BRICKS
GUARANTEED TO GIVE 25% MORE HEAT THAN ANY OTHER BRICK
MADE BY CHICAGO FLEXIBLE SHAFT CO.
THE CELEBRATED
CLARK CARBON
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THE CELEBRATED
CLARK CARBON
KING OF CARBON BRICKS
GUARANTEED TO GIVE 25% MORE HEAT THAN ANY OTHER BRICK
MADE BY CHICAGO FLEXIBLE SHAFT CO.

Clark's—Genuine in cakes 7½x2x1¼ inches. Weight, per dozen, 9 pounds.
Per dozen $1.20
One dozen cakes in a carton.
Twelve dozen in a case.

EVEN UP-TO-DATE SELLING METHODS ARE OUT OF PLACE AMONG OLD FASHIONED STORE EQUIPMENT. YEAR BY YEAR THE MODERN WAYS OF SELLING ARE RAISING THE AVERAGE MERCHANDISING EFFICIENCY OF HARDWARE DEALERS. BUT AS A GROUP AND AS INDIVIDUALS THEY DO NOT STRIKE THEIR MOST PROFITABLE STRIDE UNTIL THE STORES, TOO, REFLECT THEIR AGGRESSIVENESS.

General

WASHINGTON

Hot-Blast Super Furnaces are worthy of the name.

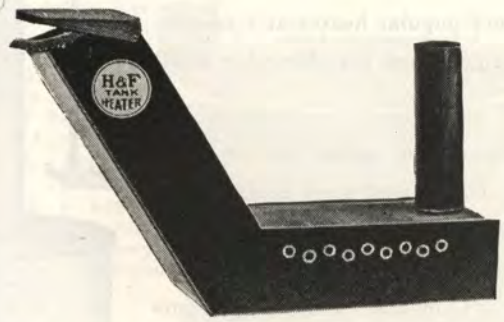
There's much in the name *Washington* that inspires customer confidence.

Likewise, there has been built into this line of Washington heaters so much true worth and honest value, that confidence once gained, is held in full measure, year after year.

In the present-day market which demands an abundance of extra-value, you can satisfy almost every prospect from *Washingtons* Seven sizes.

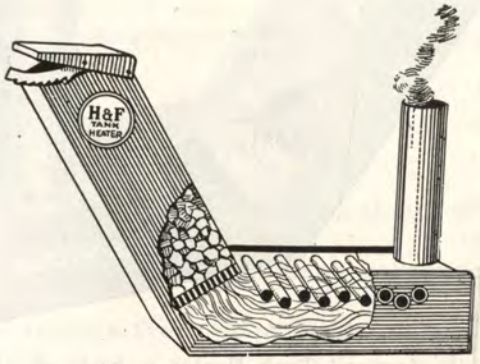
For full information see pages 280 and 281.

H. & F. TANK HEATER



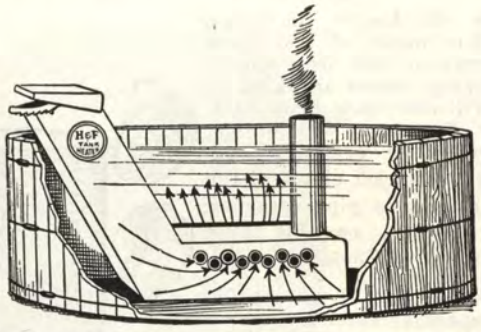
The H. & F. Water Circulating Tank Heater is the only Tank Heater of this type on the market. It is made of 14 gauge blue annealed steel throughout and acetylene welded, and is equipped with two lengths smoke pipe, spark arrestor, fastenings irons and ash scraper.

The H. & F. Tank Heater has a heating surface of more than 300 square inches over any ordinary submerged Tank Heater. And to this added heating surface it also has the circulating advantage that no other Tank Heater has.

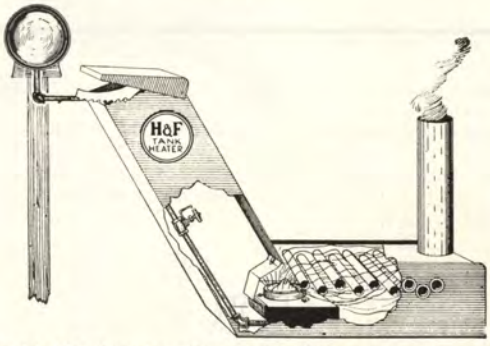


The heater has nine tubes or flues through which the water flows. These tubes are three-fourths inch in diameter and one foot long, making nine feet of tubes in each Heater. These tubes are made from what is known as fire engine tubing, and as they are very thin they heat up quickly and as soon as these tubes become hot, the water immediately begins circulating.

These tubes are made of material that will withstand the heat at the same time heat up quickly.



The outstanding feature of the H & F Water Circulating Tank Heater is that it will melt the ice on the out edge of the tank first. Consequently it offers stock access to the water sooner than with tanks that melt the water around the heater first, and where it takes a long time before the ice becomes melted away along the edges of the tank.



Economy Oil Burners (See page 871) are regular equipment for H. & F. Oil Burning Tank Heaters.

The H. & F. Tank Heater can be purchased equipped with an oil burner. Where an oil burner equipment is purchased it is not necessary to purchase grates. The oil burner is made especially for this heater and is as near fool proof as an oil burner can be made. It has a five gallon detached fuel tank.

The oil regulating valve is inside the fire chute where it keeps warm to insure an even flow of oil in the severest cold weather.

The H. & F. Heater burns wood, coal or cobs. It can be purchased either with or without grates, but where coal is intended for fuel we recommend that grates be purchased with the heater.

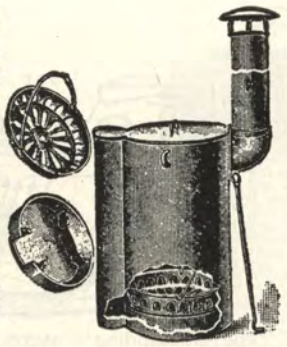
The complete Heater is of a size that makes it convenient for use in any tank. It is 28 inches in height with a floor space of 28x12x8¾ inches. Color, bright red.

H. & F. Tank Heater—Weight each 90 lbs.

With Grate.	Each	$25.00
Less Grate.	Each	23.00

TANK HEATERS

ACME



Body of heater including draft flue made of one piece close grained cast iron and is self sinking. Burns any kind of fuel. Will not crack from heating or freezing; will outlast three or four ordinary tank heaters. Has cast elbow at top to which smoke pipe attaches. Grate with fire can be taken out without removing heater.

Grate, ash tray, two foot stack, spark arrester and poker included with each heater.

No. 2—Diameter, 12 inches; height, 24 inches. Weight, each, 135 lbs. Each $11.90

No. 4—Diameter, 14 inches; height, 24 inches. Weight, each, 165 lbs. Each $14.50

No. 6—Diameter, 16 inches; height, 24 inches. Weight, each, 195 lbs. Each $19.70

FOR

OIL BURNING

TANK HEATERS

SEE

PAGES 289 & 290

A very popular heater at a reasonable price. Just the thing for small tanks.

Made of 20 gauge copper alloy steel. Galvanized steel bottom, riveted and soldered, Grate is in two sections, the front resting on two legs. Complete with shovel, one length of pipe and spark arrester.

Zero—Diameter, 15 inches; height, 24 inches. Weight, each, 45 pounds. Each $9.00

Perfection.

The "Perfection" Tank Heater is made of 14 gauge Keystone copper-steel. Gas welded, submerged type, direct draft, with or without grate. Burns either wood or coal with strict economy, the combustion chamber ebing entirely under water.

All joints are GAS WELED, doing away with seams or rivets of any description. Smokestack welded on, becoming a part of heater body itself. Cross section of the heater is 9x12 inches, height 26 inches. Hinged cover, swing draft slide.

Basket grate can be readily removed by long bar handle which is firmly riveted to grate.

Two joints of 6-inch pipe, spark arrester and ash scraper come with each heater.

No. 1003—Without grate; weight, each, about 70 lbs. Each $12.90

No. 1003G—With basket grate; weight, each, about 80 lbs. Each $15.40

COOKERS AND KETTLES

FEED COOKERS

S. & Q.

The kettles are made of the best gray iron with very heavy bottoms and with legs so that they can be easily removed from jacket. Jackets are made of 16 gauge steel with a heavy steel band at the base. Extra heavy cast iron doors closely fitted to frames.

No. 12—Rated capacity, 40 gallons weight, 197 pounds Outside rim diameter of kettle. 31 inches. Each $23.00

No. 13—Rated capacity 50 gallons, weight, 220 pounds Outside rim diameter of kettle, 33½ in. Each...$24.50

No. 14—Rated capacity 60 gallons, weight 250 pounds. Outside rim diameter of kettle, 36 inches. Each..$27.00

No. 16—Rated capacity, 80 gallons, weight, 330 pounds. Outside rim diameter of kettle, 41 inches. Each..$37.40

Coal Crates. Each $7.00

Shell only for No. 12—Each $13.00

Shell only for No. 13—Each 13.40

Shell only for No. 14—Each 14.30

Shell only for No. 16—Each 16.10

‡**Extra Door & Door Frame** (For Jacket)—Set... 4.50

INVESTIGATE.

The Moderne Way of Cooking with Oil. It is clean, convenient, economical and trouble free. The Moderne means better cooking, freedom from dirt, ashes, coal-carrying, grate-shaking, building fires, etc.

For full information see pages 242 and 243.

BOILING KETTLES

Perfection—Welded Steel.

Stock Feed Cookers are made of 14-gauge blue annealed steel. This applies both to the cooker and to the firebox.

Cooker kettles are of welded leak-proof construction making a permanent one-piece job. The bottoms of kettles are "V" shape which not only makes them hold their shape, but makes it easy to dip contents closely.

Fire boxes are of 14-gauge blue annealed steel set into heavy cast iron ends with legs raising cooker four inches off the floor. Door opening is 10 inches by 13 inches and is provided with a 4¾-inch circular draft as shown.

Perfection Cookers are rapid, economical boilers; **fuel savers easily controlled.**

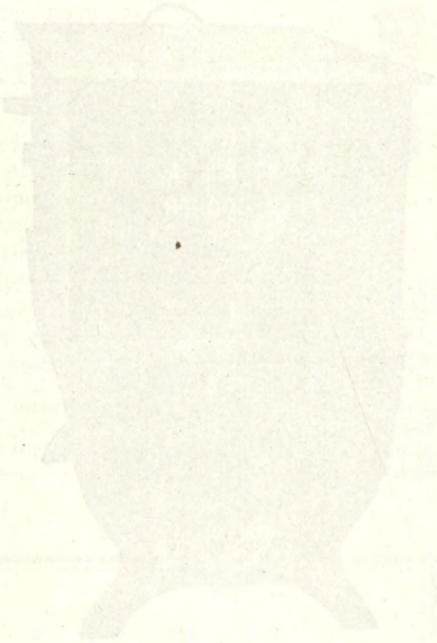
No.	Gal.	Width	Hgt.	Lgth.	Wgt. with Grates	List Price with Grates
40	40	20 in.	16 in.	30 in.	205 lbs.	**$30.80**
60	60	20 in.	18 in.	36 in.	225 lbs.	**35.60**
75	75	20 in.	18 in.	48 in.	250 lbs.	**39.50**
100	100	20 in.	18 in.	60 in.	285 lbs.	**42.70**

Above list prices include grates useable for either wood or coal. If grates are not wanted, deduct $3.50 from list price. Extra grates, per set, list, $3.50. Perfection Cookers are listed in **actual capacities**—not rated capacities as are usually given.

FEED COOKERS

Caldron.

Rated cap., (gals.)	**40**	**50**	**60**
Depth, inches	16½	17	18
Diameter, inches	31	32	37
Weight, lbs.	130	150	180
Each	$12.60	$13.50	$15.20



GAS SECTION

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Circulating Heaters - - - - - - Pages 214-215

Radiant Heaters - - - - - - - - Page 217

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GAS RANGES

BANQUET GASTROLUX

COOKS ON IMPRISONED HEAT UNDER AUTOMATIC CONTROL

Furnished with Heatsealed oven that cooks and bakes under automatic control, with the gas out half the time. Reaches baking temperature much quicker than other ovens, and retains the heat within the oven, where it belongs. Cuts down gas bills and practically eliminates food shrinkage. No pre-heating is necessary; all foods and baking are placed in the cold oven and the gas is then lighted.

The Blue Streak Burners on the cooking top boil, fry and stew in less time than others.

Beautiful beyond comparison and as easy to clean as a china bowl is this new Banquet Gastrolux—with rounded surfaces inside and out. No sharp corners—no surfaces where grease and dirt may collect. Protected with lustrous, glistening porcelain enamel.

Nothing but the finest grey iron and Armco Iron, in heavy gauges are used in building the Gastrolux. It wegihs 375 pounds. The frame and cooking top; the oven bottom and legs are built of the finest grey iron into which the enamel is fused. No flimsy sheet iron or light steel parts are used in any part.

The pipe and valves are entirely concealed beneath the smooth rounded porcelain front, which may be instantly lifted for inspection of the mixers and valves. The base band is also concealed inside the body.

All handles are of cool Bakelite.

Ample in size, this new Banquet Gastrolux is so efficiently designed, that it fits into any kitchen. Think of a baking oven with 4,850 cubic inches of space, and a cooking top 24 inches long and 23¾ inches deep, fitting into a kitchen space of less than two feet in depth and only 3¾ feet in length.

BANQUET HEATSEALED OVEN

The Heatsealed Oven in the Banquet Gastrolux is warranted to operate with one-half the gas used by the ordinary gas range oven; to cook more delicious meals; to more than double leasure hours, and to reach 500 degrees in much less time than other ranges, eliminating pre-heating of oven.

These are the reasons for this unequaled performance and economy:

1. Thermol—one and one-half inches thick—completely insulates the baking oven. The oven door is thickly insulated. Heat does not penetrate Thermol. It is an exclusive Banquet feature, without seams or joints through which heat can escape. It is unaffected by fire, water or time.

2. The illustration on page 798 shows how dead-air also surrounds the oven. This insulated dead-air space is properly constructed in the Banquet Gastrolux, so that the air within cannot circulate, but is motionless, forming another barrier to the escape of oven heat. A blistering temperature within the Heatsealed Oven barely warms the exterior of the range. All gas consumed is utilized exclusively for baking, roasting, or other oven cooking.

3. Automatic Oven Heat Control is built in the Heatsealed Oven, regulating the temperature in the oven, without watching, and insuring the maximum gas saving, made possible by the Thermol insulation and dead-air space around the oven.

4. Heat is held in the oven and prevented from passing rapidly to the flue by four dams built in the exit flue. With a temperature of 500 degrees in the baking oven, the temperature at the pipe collar is about 180 degrees.

5. The Autostop is an automatic device that closes the oven vent when the gas is turned off, continuing the cooking process on imprisoned heat.

   The vent is wide open when the gas is turned on full, and as the gas is lowered, the vent gradually closes. For example, when the gas is turned half on the vent is half open, greatly retarding the escape of heat from the oven.

   This is important, because after the oven is heated, with the full oven burner flame to the required temperature, the oven burner valve may be turned partially off. This partially closes the vent and keeps the heat in the oven, so that the thermostat continues to maintain the required oven temperature, indefinitely, with little or no gas.

6. The sides and corners of the Banquet grey iron Oven Bottom are cut away and designed to allow the heat from the oven burner to flow rapidly and freely into the oven from the moment the oven burner is lighted. This heat is evenly distributed to every part of the oven.

   The oven burner is placed three inches below the oven bottom so that the oven bottom does not baffle the flow of heat into the oven, as on other ranges, where the oven burner is placed closely beneath the large square oven bottom.

GAS RANGES

BANQUET GASTROLUX

1. The grey iron Oven Bottom serves three important purposes:

   a. It doubles the life of the oven, as compared with the ordinary steel or sheet iron oven bottom. Banquet grey iron oven bottoms do not warp, rust or burn out.

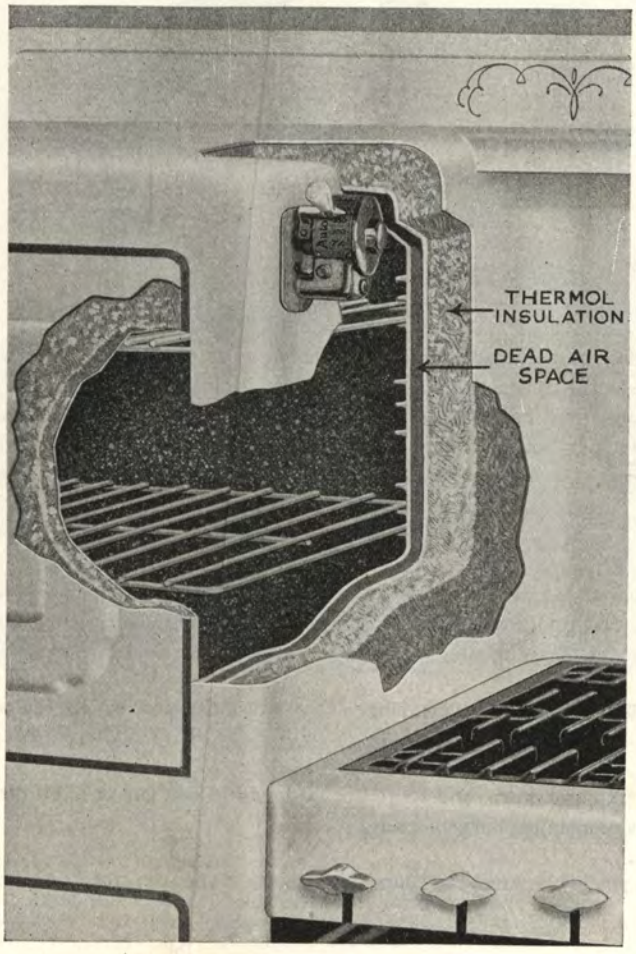
   b. It saves about one-third on gas consumed, as compared with the ordinary sheet iron oven bottoms, because of the heat retained and radiated from the cast iron, after the oven bottom is heated. The automatic oven heat control lowers the oven burner jets, without loss of oven temperature, because of the heat radiated from the cast bottom. It is necessary to burn more gas to maintain the same oven temperature with a sheet iron oven bottom that retains no heat.

   c. The grey iron oven bottom insures perfect baking, as it is the best for equalizing the temperature in all parts of the oven.

8. Shrinkage of foods in baking or roasting is reduced to a minimum. In recent test a ham which weighed 15 pounds when placed in the oven, weighed 13½ pounds when it was taken out. The same size ham, when roasted in an ordinary oven, weighed 8¼ pounds when taken out.

   Another recent test was made in cooking an identical meal in the Heatsealed Oven in competition with a high grade standard gas range. Each range was connected to the same gas main, and an accurate meter placed on each range. The meals cooked in the Heatsealed Oven and in the competing range consisted of: 6 pounds of Pork Roast; 2 pounds of potatoes; 1 pound of macaroni with cheese and 1 pound of apples. Each complete meal was carefully weighed so that the amount of food in each range was identical.

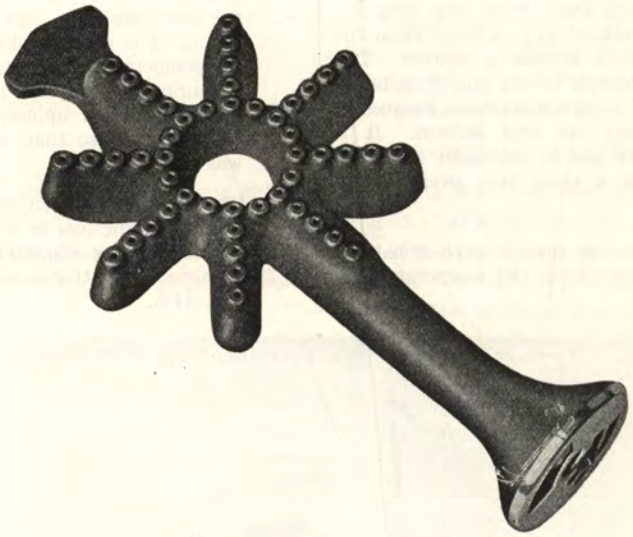
   The Heatsealed Oven required 23 feet of gas to cook this meal, and the loss in weight of the entire meal was 7%. The competing standard range required 48.5 feet of gas to accomplish the same results, and the loss in weight was 24%.



GAS RANGES

BANQUET

BLUE-STREAK BURNER



Here is the speediest cooking burner made for gas. This burner is cast in one piece with drilled openings. There is no possibility of leakage. The star-shaped construction and the round opening in the center of the burner allow oxygen in the air to reach each jet of flame easily—resulting in better and more complete combustion than on any other type of burner ever devised. The center of the burner is as hot as the outer edge. See how each gas port is built like a miniature volcano crater. All these ports are little volcanoes, allowing more air to circulate freely around each jet of gas, consuming it more thoroughly and producing a hotter flame. Grease and liquids dropping in cooking cannot lodge in the burner easily, but fall through to the burner tray.

You will notice how the face of the air mixer is accurately ground so that the nickel-plated mixer cap, made of stamped steel with a set-screw, will permit easy and positive adjustment of the air supply, and fit tightly and perfectly to it. See how easy it is to instantly regulate the amount of air mixing with the gas to produce an intense flame at a minimum cost.

See how easily all burners lift from place for cleaning. They are supported by one substantial cast rod, which can also be easily lifted out.

Banquet Blue Streak Burners never warp, and there are no joints to leak gas or allow dirt to seep in. We believe they are, undoubtedly, the hottest and most economical burners made.

Another new improvement you'll like are these Banquet Turnezy Valve Controls. See how easily and conveniently they adjust the flow of gas.

These valve controls are made of durable Bakelite. and are always cool.

GAS RANGES

BANQUET AUTOMATIC GASTROLUX

WITH HEATSEALED OVEN—OCEAN GREEN PORCELAIN

General Construction—As described on preceding pages.
Finish—Ocean Green Porcelain with Emerald and Crimson decorations.
Equipment—Automatic Oven Heat Control: Auto Stop; Rutz Lighter, and Utensil Drawer.

Dimensions

ooking Top, inches	24x23¼	Height To Cooking Top, Inches	32¼
aking Oven, Cubic Inches	4851	Floor Space Occupied, Inches	46½x29
Inches	21x14x16½	Utility Drawer, Cubic Inches	2835
roiling Oven, Cubic Inches	2772	Inches	22½x21x6
Inches	21x8x16½	Shipping Weight, pounds.	375
eight Over All, Inches	52¾		

o. GN-303-R—Banquet Gastrolux. Right hand oven. Ocean Green Porcelain. Each $166.00
o. GN-303-L—Banquet Gastrolux. Left hand oven. Ocean Green Porcelain. Each 166.00
xtras—Tropic Top—Each 13.00
Closed Speed Top—Each 4.25

NOTE—Specify whether the range is to be used with Natural, (NAT.) or Manufactured, (MFD.) Gas.

GAS RANGES

BANQUET AUTOMATIC GASTROLUX

WITH HEATSEALED OVEN—ALL TAN PORCELAIN

General Construction—As described on preceeding pages.
Finish—All Tan Porcelain with Emerald and Crimson Decorations.
Equipment—Automatic Oven Heat Control; Auto Stop; Rutz Lighter, and Utensil Drawer.

Dimensions

Cooking Top, inches	24x23¼	Height To Cooking Top, Inches	32¼
Baking Oven, Cubic Inches	4851	Floor Space Occupied, Inches	46½x29
Inches	21x14x16½	Utility Drawer, Cubic Inches	2835
Broiling Oven, Cubic Inches	2772	Inches	22½x21x6
Inches	21x8x16½		
Height Over All, Inches	52¾	Shipping Weight, pounds.	375

No. T-303-R—Banquet Gastrolux. Right hand oven. All Tan Porcelain. Each $166.00
No. T-303-L—Banquet Gastrolux. Left hand oven. All Tan Porcelain. Each 166.00
Extras—Tropic Top—Each 13.00
Closed Speed Top—Each 4.25

NOTE—Specify whether the range is to be used with Natural, (NAT.) or Manufactured. (MFD.) Gas.

GAS RANGES

BANQUET AUTOMATIC GASTROLUX

WITH HEATSEALED OVEN—PEARL & WHITE PORCELAIN

General Construction—As described on preceeding pages.
Finish—Pearl & White Porcelain with Green and Crimson Decorations.
Equipment—Automatic Oven Heat Control; Auto Stop; Rutz Lighter and Utensil Drawer.

Dimensions

Cooking Top, inches	24x23¼	Height To Cooking Top Inches	32¼
Baking Oven, Cubic Inches	4851	Floor Space Occupied. Inches	46½x29
Inches	21x14x16½	Utility Drawer, Cubic Inches	2835
Broiling Oven, Cubic Inches	2772	Inches	22½x21x6
Inches	21x8x16½	Shipping Weight, pounds.	375
Height Over All, Inches	52¾		

No. G-303-R—Banquet Gastrolux. Right hand oven. Pearl and White Porcelain. Each $166.00
No. G-303-L—Banquet Gastrolux. Left hand oven. Pearl and White Porcelain 166.00
Extras—Tropic Top—Each 13.00
Closed Speed Top—Each 4.25

NOTE—Specify whether the range is to be used with Natural, (NAT.) or Manufactured, (MFD.) Gas.

GAS RANGES

BANQUET INSULPACKT

The Banquet Insulpackt is fully insulated with Thermol, and dead-air space, and is furnished with the same Blue Streak Burners, as the Gastrolux. It is an unusual value in a speedy, economical and beautiful range of large capacity, in comparison with other "insulated" ranges.

This Insulpackt Oven is heavily blanketed with Thermol—the finest insulation known to science. It keeps the heat inside the oven, avoiding the waste by radiation through the oven walls. It cuts gas bills more than half and abolishes the old time overheated kitchen. Foods cooked in the Insulpackt Oven retain their flavor and juices, with slight shrinkage, evaporation and loss of weight. With the gas lighted in the oven you can place your hand on the exterior walls of the Insulpackt Oven.

Place biscuits in the cold oven; then light the gas and in fifteen minutes take them out perfectly baked.

The Automatic Oven Heat Control is furnished with every Banquet Insulpackt. No more guess-work on baking days, or in the preparation of any meal. A cooking chart is furnished, that shows the proper temperature at which to bake or roast.

Simply set this regulator at the specified temperature and you can leave your baking or roasting without further attention. Or you can place an entire meal; meat, potatoes, vegetables and pudding in the oven at one time, and the oven heat control watches it while you enjoy the afternoon elsewhere.

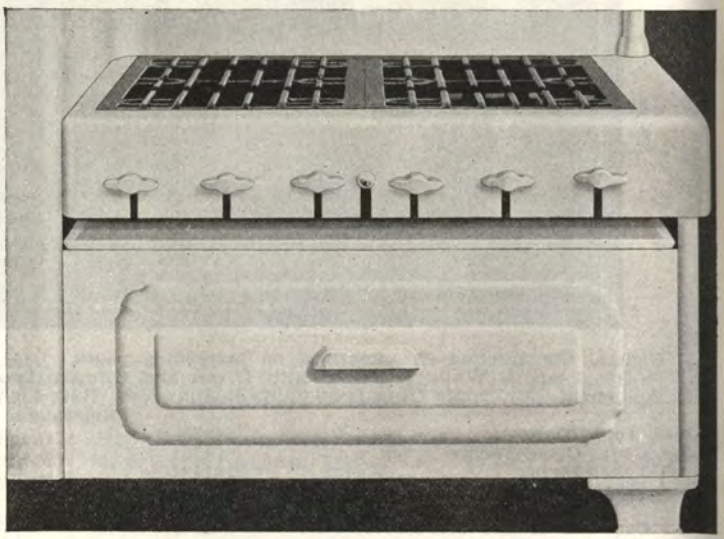
The Blue Streak Burners of the cooking top are porcelain enameled, and boil and fry in quicker time and with less gas.

Each gas port in this burner is built like a little volcano crater, allowing more air to circulate freely around each gas jet, consuming the gas thoroughly, and producing an intensly hot, blue-green flame.

The burner is cast in one piece. It is simple to adjust and regulate, and may be instantly removed for cleaning. The piping and valves are entirely concealed beneath the smooth, rounded porcelain front, that may be quickly raised for inspection or adjustment of valves and mixers.

Bakelite handles on valves and doors are always cool.

Handy Utensil Drawer is furnished.



The Piping, Valves & Mixers are Concealed behind a Rounded Porcelain Shield

GAS RANGES

BANQUET AUTOMATIC INSULPACKT

General Construction—As described on preceding page.
Finish—Ocean Green Porcelain with Varicolored Decorations.
Equipment—Utensil Drawer; Automatic Heat Control and Rutz Lighter.

Dimensions

oking Top, inches	23¼ x21⅝	Height to Cooking Top, Inches	31¾
king Oven—Cubic Inches	4620	Floor Space Occupied, Inches	42½x28
Inches	20x14x16½	Utility Drawer, Cubic Inches	2228
oiling Oven—Cubic Inches	2640	Inches	20x20¼x5½
Inches	20x8x16½	Shipping Weight, Pounds	330
ight Over All, Inches	51¼		

. **GN-305-R—Banquet Insulpackt.** Right hand oven. Ocean Green Porcelain. Each $142.00
. **GN-305-L—Banquet Insulpackt.** Left hand oven. Ocean Grean Porcelain. Each 142.00
tras—**Closed Speed Top.** Each 4.25
Simmer Burner. Each 5.25

NOTE—Specify whether the range is to be used with Natural, (NAT) or Manufactured, (MFD) Gas.

GAS RANGES
BANQUET AUTOMATIC INSULPACKT

General Construction—As described on preceding pages.
Finish—All Tan Porcelain with vari-colored decorations.
Equipment—Utensil Drawer; Automatic Heat Control and Rutz Lighter.

Dimensions

Cooking Top, inches	23¼x21⅝	Height to Cooking Top, Inches	31¾
Baking Oven—Cubic Inches	4620	Floor Space Occupied, Inches	42½x28
Inches	20x14x16½	Utility Drawer, Cubic Inches	2228
Broiling Oven—Cubic Inches	2640	Inches	20x20¼x5½
Inches	20x8x16½	Shipping Weight, Pounds	330
Height Over All, Inches	51¼		

No. T-305-R—Banquet Insulpackt. Right hand oven. All Tan Porcelain. Each $142.00
No. T-305-L—Banquet Insulpackt. Left hand oven. All Tan Porcelain. Each 142.00
Extras—Closed Speed Top. Each 4.25
Simmer Burner. Each 5.25

NOTE—Specify whether the range is to be used with Natural. (NAT) or Manufactured. (MFD) Gas.

GAS RANGES
BANQUET AUTOMATIC INSULPACKT

General Construction—As described on preceding pages.
Finish—Pearl and White Porcelain with vari-colored Decorations.
Equipment—Automatic Heat Control; Utensil Drawer and Rutz Lighter.

Dimensions

...king Top, inches	23¼ x 21⅝	Height to Cooking Top, Inches	31¾
...king Oven—Cubic Inches	4620	Floor Space Occupied, Inches	42½ x 28
Inches	20x14x16½	Utility Drawer, Cubic Inches	2228
...illing Oven—Cubic Inches	2640	Inches	20x20¼ x 5½
Inches	20x8x16½	Shipping Weight, Pounds	330
...ight Over All, Inches	51¼		

...a. G-305-R—**Banquet Insulpackt.** Right hand oven. Pearl and White Porcelain. Each **$142.00**
...a. G-305-L—**Banquet Insulpackt.** Left hand oven. Pearl and White Porcelain. Each **142.00**
...tras—**Closed Speed Top.** Each **4.25**
Simmer Burner. Each **5.25**

NOTE—Specify whether the range is to be used with Natural, (NAT) or Manufactured, (MFD) Gas.

GAS RANGES

BANQUET SUPER-RANGE

307 SERIES—WITH HEATMETER

On the new Banquet Super-Range all corners and dirt catchers are eliminated.

Gone into discard are all sharp edges; the unsightly exposed pipe and valves: the dirt-catching corners, always found on ordinary ranges.

Instead, sparkling porcelain surfaces, that are smooth, rounded, sanitary, and as easily cleaned as a china bowl.

Surfaces—inside and out—on the new Banquet Super-Range finished in durable porcelain. The oven interiors are sweet, clean and sanitary—will never rust or corrode.

Merely wiping with a damp cloth keeps this Banquet Super-Range fresh and clean. No sharp edges anywhere to scratch your hands or catch the cleaning cloth.

The oven is effectively insulated with dead-air space. It requires no pre-heating, and is just as speedy in operation as the Banquet Gastrolux and Insulpackt.

The same quick and economical Blue Streak Burners are furnished as on the Gastrolux and Insulpackt.

The grey iron oven bottom weighs 12 pounds. It doubles the life of the oven as compared with the ordinary steel or sheet iron oven bottoms. This oven bottom will never warp, crack, corrode, or burn out, as steel or sheet iron ovens will do.

Notice its distinctive shape and design. It allows the heat from the oven burner to flow freely into the oven from the minute the oven burner is lighted. The sides and corners of the cast bottom are scientifically cut away, allowing ample space for the heat to pour fully and instantly into the baking oven—and evenly to all parts of the oven. Speed—Bkaing temperature quickly—what you have always wanted in an oven.

This solid grey iron construction of the oven also means the saving of from 20 to 40% on gas consumed as compared with the ordinary steel ovens because of the heat retained and heat radiated from the cast iron after the oven bottom is thoroughly heated.

See how the oven burner is placed three inches below the cut-away oven bottom so that the baking oven will be flooded quickly with evenly diffused heat. In other ranges the burner is placed closely beneath the large square bottom oven plate which baffles and holds the flow of heat from flowing quickly into the oven.

Four dams in the top flue retard the escape of the heat out of the oven.

Do you see how the entire frame of this Banquet Super-Range as well as the cooking top, legs and oven bottom are all built of strong rigid grey iron?

This solid construction insures a much stronger and more durable range. The oven and broiler doors can be far more accurately and tightly fitted to cast frames than to steel frames, avoiding leakage of heat around the doors.

We always advise our customers never to buy a gas range with steel or sheet-iron frames, as they always have tendency to warp from heat, and are not as durable. This statement also applies to steel or sheet-iron cooking tops, legs and oven bottoms. They are cheaper to make, but we do not believe they give as satisfactory service.

The Banquet Super-Range may be furnished with either a Heatmeter, which accurately indicates the oven temperature or with the same automatic Oven Heat Control as our Gastrolux and Insulpackt. Cooking chart is furnished with each range which gives the correct temperature for any baking or roasting.

Dimensions

Cooking Top, Inches	22¼ x21⅝
Baking Oven—Cubic Inches	4620
Inches	20x14x16½
Broiling Oven—Cubic Inches	2640
Inches	20x8x16½
Height Over All, Inches	51¼
Height to Cooking Top, Inches	31¾
Floor Space Occupied, Inches	42½x28
Utensil Drawer—Cubic Inches	2228
Inches	20x20¼x5½
Shipping Weight, pounds	300

GAS RANGES
BANQUET SUPER-RANGE

Finish—Ocean Green Porcelain with decoration. General Construction—As described on page 832.
Equipment—Utensil Drawer; Rutz Lighter is optional, and must be specified on order.

No. GN-307-R—Banquet Super-Range. With Heatmeter. Right hand oven. Ocean Green Porcelain. Each $89.50
No. GN-307-L—Banquet Super-Range. With Heatmeter. Left hand oven. Ocean Green Porcelain. Each 89.50

General Construction—As described on page 832.
Finish—Pearl and White Porcelain with decoration.
Equipment—Utensil Drawer; Rutz Lighter is optional, and must be specified on order.

No. T-307-R—Banquet Super-Range. With Heatmeter. Right hand. All Tan Porcelain. Each $89.50
No. T-307-L—Banquet Super-Range. With Heatmeter. Left hand. All Tan Porcelain. Each 89.50

Extras—Closed Speed Top. Each 4.25
Rutz Lighter—(For Manufactured Gas.) Each 2.00
(For Natural Gas). Each 2.20
Simmer Burner. Each 5.25

NOTE—Specify whether the range is to be used with Natural (NAT) or Manufactured (MFD) gas.

WASHINGTON GAS RANGES

TABLE TOP MODEL

SEVENTIETH ANNIVERSARY MODEL

Ivory and Green Enamel Finish, Porcelain Enamel Oven and B roiler Linings, Fully Insulated Throughout.

This new Seventieth Anniversary Table Top model is entirely modern in design and construction and will harmonize with any mode of modern kitchen decoration.

Cast-Iron Construction

The oven and broiler front frame, the utility compartment front frame and burner box front, as well as the legs, are constructed of cast-iron to insure rigidity and compactness. In addition, the oven and broiler door frames and utility compartment door and drawer front frames are constructed of cast-iron to eliminate possibility of warpage and to insure a close fit of the doors to prevent leakage of heat.

All cast-iron door frames are equipped with non-breakable steel hinges and all doors are counter-balanced with oil-tempered springs which are so located away from the heat from the oven burner as to insure lifetime service.

Oven

This model is equipped with a large and roomy oven, speckled porcelain enamel finish, with cast-iron oven bottom to insure absolute uniformity of heat in all corners of the oven. The cast-iron oven bottom will not warp or buckle. It diffuses and distributes heat from the oven burner uniformly throughout the oven and insures absolutely satisfactory baking.

Heavily insulated throughout with rock wool.

The main top of this range forms an attractive kitchen table. The oven top being insulated, the table top over the oven is always cool even while the range is in operation. This space is very convenient for mixing and preparing foods for cooking and serves as a kitchen table. The cooking top on the left is large and roomy, equipped with four standard star burners. A loose coverall top is provided for covering the cooking top when the range is not in use. When in use, this coverall is inserted in brackets on the back of the range immediately behind the cooking top, and in this position it serves as a back splasher which prevents splashing of grease against the wall behind the range.

Utility Compartment

Immediately underneath the cooking top there is a large and roomy utility compartment which can be used conveniently for storage of cooking utensils. Below the utility compartment there is a large and roomy utility drawer for storage of knives, forks, spoons, and other accessories of this character used in the cooking operation or in the kitchen.

Tested and Approved

This model is tested and approved by American Gas Association Testing Laboratory and by Good Housekeeping Institute. The Seal of Approval of these two laboratories insures satisfactory operation and cooking service under any and all conditions.

Construction Features

All enamel sheet-metal parts used in the construction of this model are on Armco Ingot Iron. Each door is fitted with an attractive flush cushion panel and pendant door handles and gas cock handles to match are used throughout, these being made of Bakelite.

This model is available only with right hand oven. The attractive Ivory and Green Enamel Finish will harmonize with any color scheme in the kitchen and the attractiveness of the design of this beautiful Table Top model insures its popularity.

Approved for Use with Compressed Gases

There is a rapidly developing market for Washington gas ranges throughout the rural and suburban districts for use with compressed gases which are rapidly growing in popularity throughout all of the United States. All Washington gas ranges are available for use with any compressed gas of this nature which may be distributed in your own immediate territory.

Compressed Natural Gas

These various gases are simply compressed natural gas which is put up in tanks or "bottles" in a convenient form of package which is very easily handled and which can be easily installed in a permanent cabinet in pairs so that after the first tank has been exhausted the other tank may be turned on and gas used from it until the distributor has had an opportunity to call for and remove the empty tank, replacing it with a refilled tank. This convenient gas service costs very little more than city gas and is placing at the disposal of everyone in the United States the opportunity to use a Gas Range for cooking, and for this reason is greatly widening the market for Washington Gas Ranges in all territories.

Construction Changes Necessary

There are several construction changes necessary on all Washington gas ranges for use with compressed gas of this character. The first of these changes is the special burners on the cooking top so that they are exactly one inch below the extreme top of the grid on the cooking top. This brings the flame closer to the bottom of the vessel, and insures most efficient service with the compressed gas.

The second change necessary is equipment of these Washington gas ranges with a special gas cock on which a special orifice is used for use with these compressed gases.

There are other minor detail changes necessary, and it is for this reason that in ordering Washington Gas Ranges for use with this compressed gas it is always necessary to specify in your order (for use with compressed gas" or to give us the trade name of the gas with which the Washington gas products are required for use.

Robertshaw Heat Regulator

On all Washington gas products equipped for use with compressed gas, the Robertshaw Oven Heat Regulator is used exclusively.

It is inadvisable to use the Rutz Automatic Push Button Lighter with compressed gases, and for this reason Washington gas ranges for use with compressed gas are not equipped with lighter.

Baking oven 16x19x13 inches. Broiling oven 16x19x8 inches. Cooking top including end shelf 20x21 inches. Height of Cooking top 36 inches. Extreme height 41 inches. Upper utility compartment 18x20x11 inches. Lower utility compartment 18x-20x8 inches. Flue Collar 4 inches. Floor space 40x24 inches. Weight crated 275 pounds. With insulation Rutz Top Lighter and Robertshaw.

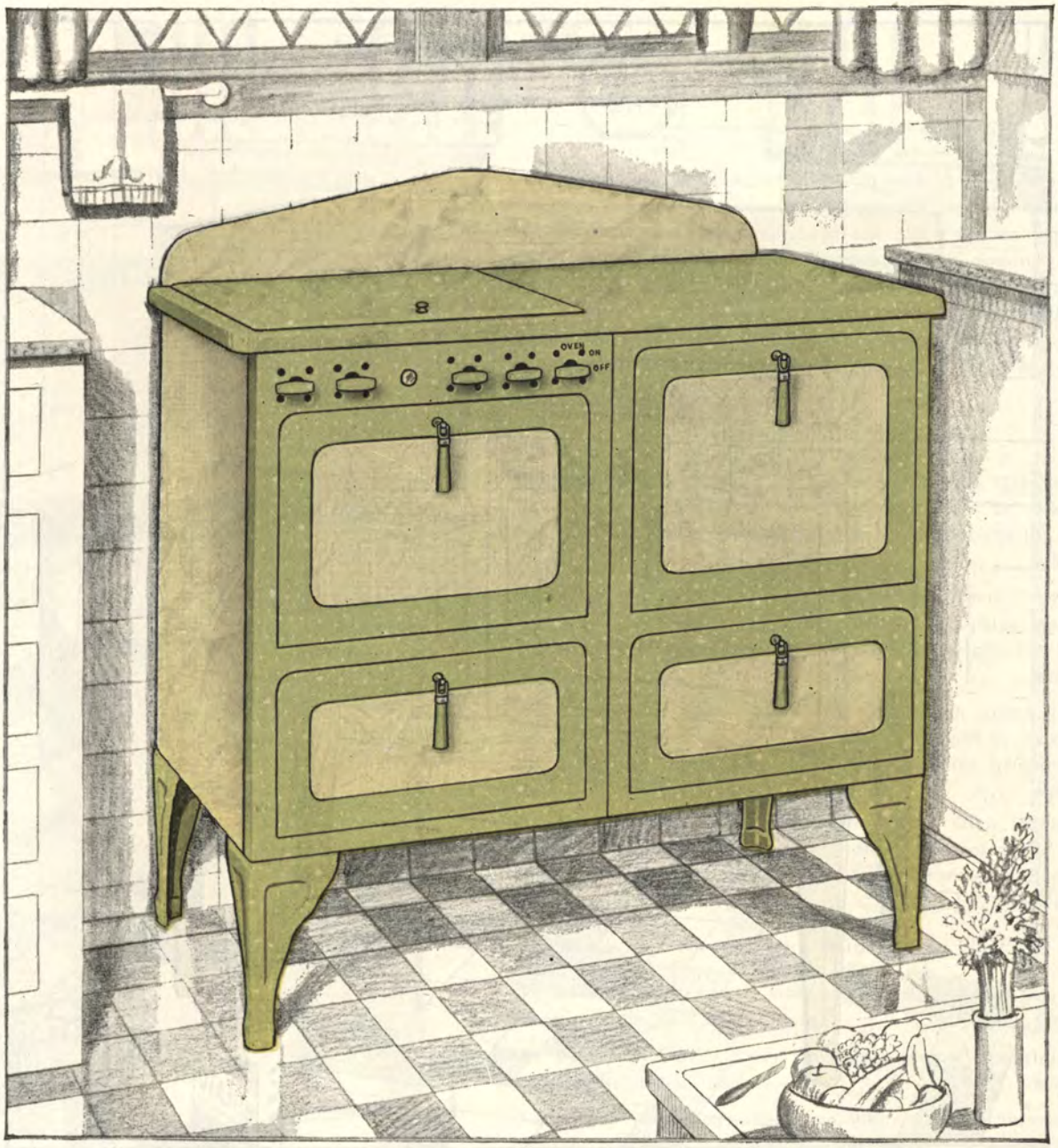
No. 3270-5—For use with Artificial or Natural Gas. Each $95.00

No. B3270-5—For use with Bottle Gas (Has no top lighter). Each 93.00

GAS RANGES

WASHINGTON TABLE TOP

Ivory and Green Enamel Finish—Porcela'n Enamel Oven and Broiler Linings—Fully Insulated Throughout

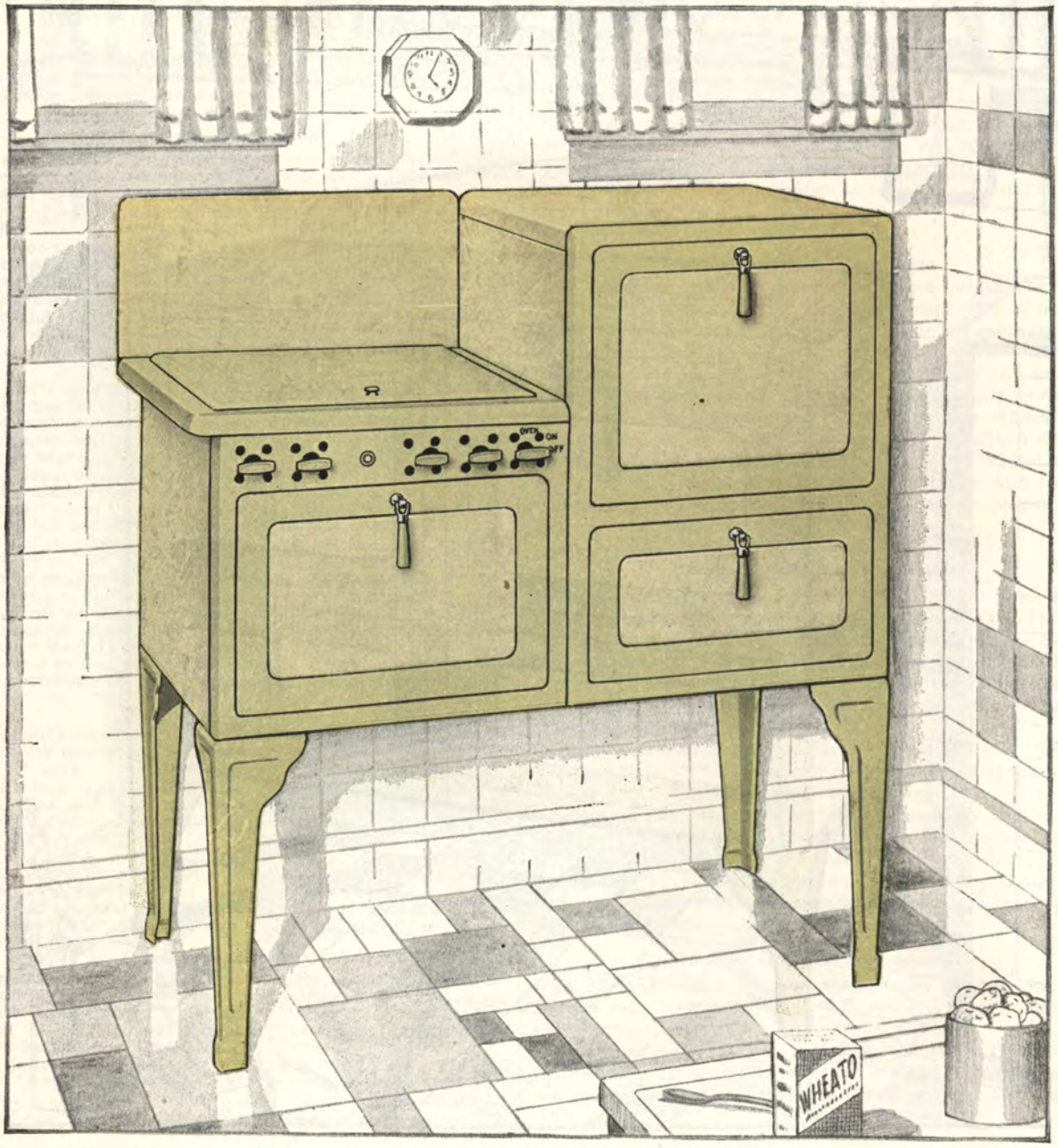


Oven and broiler front frame, utility compartment front frame, burner-box front, and legs are cast-iron to insure rigidity and sturdiness. Oven and broiler door frames and utility compartment door frames are cast-iron to eliminate warpage and to insure fit of doors to prevent leakage of heat. All cast-iron door frames equipped with nonbreakable steel hinges counterbalanced with oil-tempered springs located away from heat from oven burner to insure lifetime service. Cast-iron oven bottom will not warp or buckle. It distributes heat uniformly throughout oven insures satisfactory baking. Fully insulated throughout with Rock Wool. Main top forms kitchen table. Insulated oven top always cool even while range is in operation. This space convenient for preparing foods. The cooking top is large, equipped with four standard star burners. Loose coverall is provided for covering cooking top when range is not in use. When range is in use, coverall is inserted in brackets on back of range immediately behind cooking top where it serves as splasher back. Large utility compartments located immediately underneath cooking top for convenient storage of utensils. Tested and approved by American Gas Association and by Good Housekeeping Institute. Manufactured with right-hand oven only, as illustrated.

GAS RANGES

WASHINGTON CONSOLE MODEL

Green and Ivory Enamel finish—Porcelain Enamel Oven and Boiler Linings—Fully Insulated Throughout



See Page 834 for general description.

No. 3170-5—For use with Artificial or Natural Gas. Each $85.00

No. B3170-5—For use with Bottle Gas (Has no top lighter). Each 83.00

Ranges the same as the No. 3170-5 series but less insulation and oven regulator can be supplied as follows:

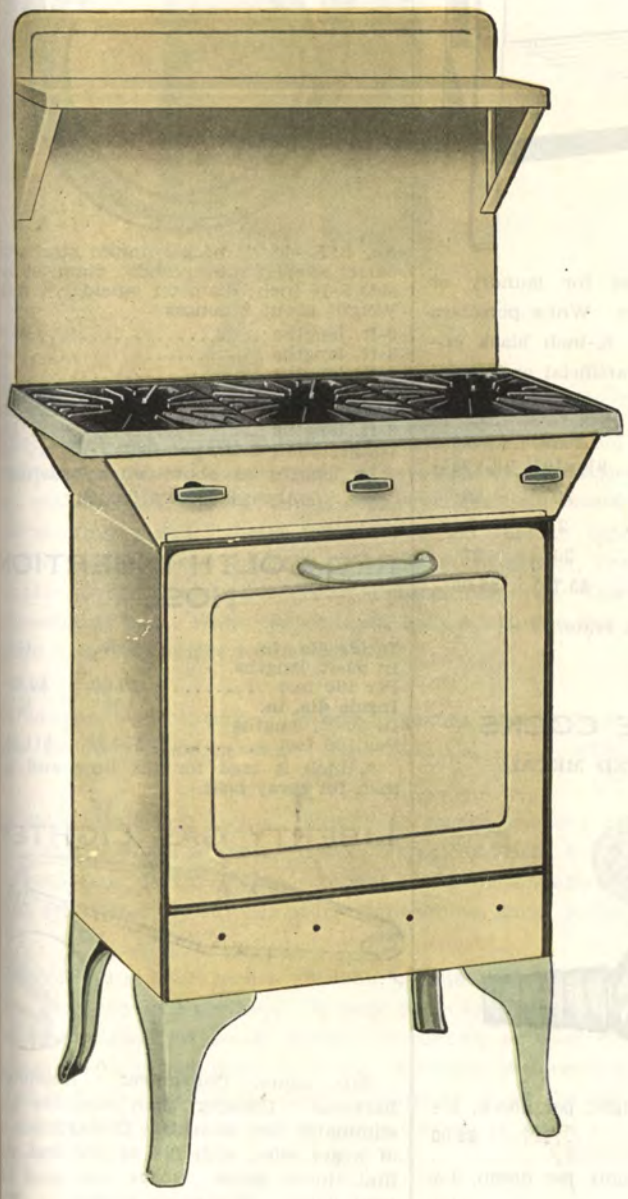
No. 3100-5—For use with Artificial or Natural Gas. Each $59.00

No. B3100-5—For use with Bottle Gas (Has no top lighter). Each 57.00

GAS COOKERS

SUSSEX WASHINGTON

For use with Artificial or Natural Gas



Equipped with Washington Ventilated Aerated fresh air oven. Armco Ingot iron oven door finished in ivory porcelain enamel. Sturdy construction with interchangeable cast iron grids. Special, standard, cast-iron cooker burners in the cooking top. Mounted on four cast iron legs. Cooking top and main front of cast iron. Full sized, 14-inch high oven equipped with a special high efficiency oven burner which is readily ignited through ports in the oven bottom.

For Use with Artificial or Natural Gas

No. 136-5S—With Shelf, Ivory and Green Enamel, Oven 16x-14x12 inches. Cooking top 14x24 inches. Height to cooking top 33 inches. Floor space 16x24 inches; Cratedweight 125 lbs. Each $40.00

No. 136-5—No shelf, Ivory and green enamel, Oven 16x14x12 inches. Cooking top 14x24 inches. Height to cooking top 33 inches. Floor space 16x24 inches. Crated weight 125 lbs. Each $32.00

No. 136-S—With Shelf. Black and white finish. Oven 16x-14x12 inches. Cooking top 14x24 inches. Height to cooking top 33 inches. Floor space 16x24 inches. Crated weight 107 lbs. Each $23.00

No. 136—No shelf. Black and white finish. Oven 16x14x12 inches. Cooking top 14x24 inches. Height to cooking top 33 inches. Floor space 16x24 inches. Crated weight 105 pounds. Each $18.00

For Use With Bottle Gas.

No. B136-5S—With shelf. Ivory and Green enamel. Dimensions same as No. 136-5S. Each $40.00

No. B136-5—No shelf. Ivory and Green enamel. Dimensions same as No. 136-5. Each $32.00

No. B136S—With shelf; Black and White finish. Dimensions same as No. B136S. Each $23.00

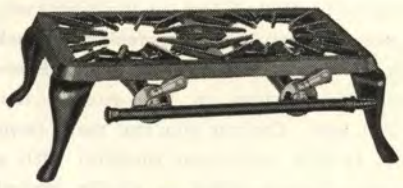
No. B136—No Shelf. Black and White finish. Dimensions same as No. 136. Each $18.00

HOT PLATES & ACCESSORIES

HOT PLATES

(Our hot plates can be used with either natural or artificial gas by adjusting the air intake. For natural gas, practically all air should be shut off.)

I. X. L.

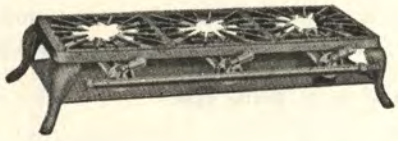


Made of first class material and inspected. Black rubberoid finish, gas cocks have white porcelain handles. Star type burner, very economical in fuel consumption.

Nos.	18	28	38
No. of burners	1	2	3
Size, ins. ...	10x10x6	18x10x6	27x10x6
Wt., each, lbs.	10	16	22
Each	$2.30	$4.50	$7.80

For use with artificial or natural gas.

I. X. L. WITH TRAY

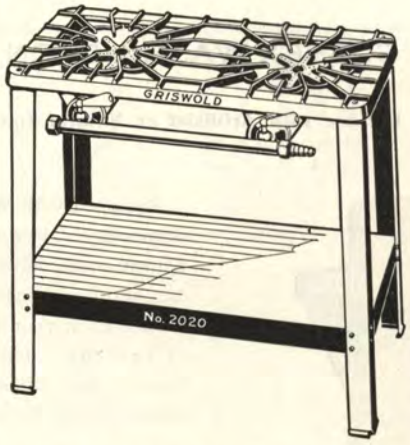


These hot plates are the regular I. X. L. equipped with a tray which is easily removed for cleaning.

No.	39
No. of burners	3
Size, inches	27x10x6
Wt., each, lbs.	23
Each	$7.70

For use with artificial or natural gas.
Six in a crate.

GRISWOLD LAUNDRY



Elevated Hot Plates for laundry or kitchen, Cast-in grates. White porcelain handle lever valves. ⅜-inch black enamel manifield. For artificial or natural gas.

Nos.	2020	2030
Size of top, ins.	9½x19½	9½x25½
Height, inches	20	20
No. of burners	2	3
Wt., each, lbs.	20	27
Each	$5.70	$9.00

Two in a crate.

GAS HOSE COCKS

BRASS, DIPPED METAL

No. 76—⅜ inch. Weight, per dozen, 2½ pounds. Per dozen $3.00

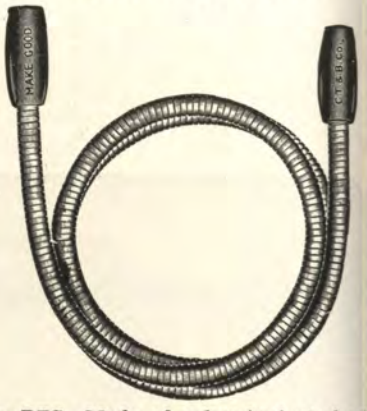
No. 76—½ inch. Weight, per dozen, 2¾ lbs. Per dozen $3.60

No. 76—¾-inch. Weight, per dozen, 3 lbs. Per dozen $4.80

Open stock—Loose

GAS STOVE TUBING

BARREL END STEEL



No. BES—Made of galvanized steel wi barrel shaped rubber ends; diameter i side 5-16 inch; diameter outside, ⅜ inc Weight about 2 ounces.

2-ft. lengths	$0.
3-ft. lengths	
4-ft. lengths	
5-ft. lengths	
6-ft. lengths	
8-ft. lengths	1.
Longer than 8 ft., per foot	

In lengths as above when ordering Always specify length

RED COLTH INSERTIO HOSE

Inside dia., in.	⅛	¼
In 50-ft. lengths.		
Per 100 feet	$9.00	$9.50
Inside dia. in.	⅜	½
In 50-ft. lengths		
Per 100 feet	$10.20	$11.2

⅜-inch is used for gas hose and ¼ inch for spray hose.

LIBERTY GAS LIGHTE

Safe, Sure, Convenient. Absolut harmless. Cheaper than matches a eliminates fire hazards. Construction of heavy wire, with file at one end a flint tip to ignite. Spark tips good 1500 lights. Renewable instantly. W per carton 2¼ lbs. Per dozen.....$1.

Packed 2 dozen in a carton.

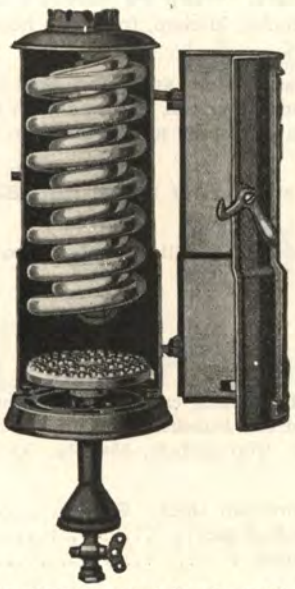
Extra Tips for the above. Per doz..$0.

Packed 1 gross in a carton.

TANK AND GAS WATER HEATERS

BUCKEYE

TANK HEATERS



Buckeye Water Heaters furnish dependable, economical hot ater service. Flared cast iron jackets, large combustion chamr, suitable baffles, heavy double copper coils, solidly brazed d carefully tested. Upper water connection through top, sitive locking mixer, threaded valve, flat faced shutter, reovable burner. Japan finish with bronzed trimmings. Gas nnection ½ inch. Water connection ¾ inch, 3 inch flue. Furshed with extra orifice for natural gas.

. 20—Size 7½x17¾ inches. Weight 33 pounds, capacity 30-40 ls. Recovery 35 gal. per hour. Each $7.80

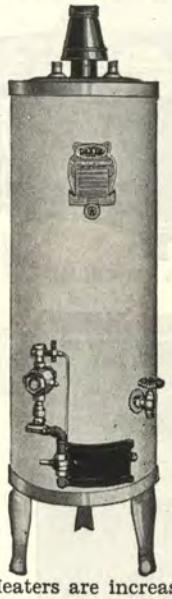
. 25U—Size 8½x23 inches. Weight, 42 pounds, capacity 40 ls. Recovery 38.9 per hour. Galvanized unions. Each..$10.80

. 30U—Size 8½x23 inches. Weight, 44 pounds, capacity -52 gals. Recovery 38.9 per hour. Galv. unions. Each..$11.70

No. 80U—Size 10x24 inches. Weight, 72 pounds, capacity 100 ls. Recovery 64.9 per hour. A large triple coil heater parcularly adapted for hotels, garages, restaurants or wherever large supply of hot water is needed. Can also be furnished an 80 Twin, doubling the above capacitites. Either the 80U the Twin 80 can be hooked up with a thermostat, giving aumatic service . Each $30.00

No. 30U—Can also be furnished for the various "Bottled ses" that are now on the market. Specify name of gas when dering. Add $1.00 to the price of the 30U, for bottled gas.

AUTOMATIC STORAGE HEATERS



Automatic Storage Heaters are increasing in sale each month. Nothing affords more pleasure and comfort than automatic hot water and prices are now down to where it is no longer a luxury. The Buckeye is the complete and satisfactory answer to the tremendous need in homes everywhere for hot water that's always on tap. Its beautiful finish and performance will make many a sale for you.

Detail Information

Tanks—Double extra heavy, with Cop-R-Loy flue, galvanized inside and out. Tested at 300 lbs. pressure. No. 20, Shell 10 gauge, Head 8 gauge, Bottom 7 gauge, Nos. 30 and 40, Shell 10 gauge, Head 7 gauge, Bottom 3 gauge.

Burner—Jet or drilled type.

Thermostat—Throttling type, with jet burner or "Snap" with drilled burner.

Dirt Trap—Supplied with either type thermostat.

Insulation—Rock wool, one of the most efficient heat insulators known.

Draft Diverter—Checks down drafts from blowing out pilot flame.

Gas Cock—Adjustable, so that heater can be operated at its normal gas burning rate.

Drain Cock—Conveniently located at front of heater.

Door—Large opening, to make burner easily accessible.

Legs—12 gauge steel, 8 inches high, to make cleaning under heater easy.

Tank Jacket—24 gauge steel.

No. 20 Gallon—Weight, 200 pounds. Each $71.50
No. 30 Gallon—Weight, 250 pounds. Each 81.50
‡**No. 40 Gallon**—Weight, 275 pounds. Each 100.00
‡Add $6.00 list, with Safety Pilot.
‡With Drilled burner and snap action thermostat add $2.00 to list price.

Items marked thus ‡ not carried in stock but shipped direct from factory.

RESTAURANT AND CAFE RANGES

ECONOMY

No. N600BHS

No. N50GBH

No. N40BH

No. N30H

Attractiveness, sturdy construction and utility mark the popular line of Economy Restaurant and Cafe Ranges. There are models adapted for every restaurant, cafe, lunchroom, club, church, kitchen, fraternity houses and boarding houses..

Built of heavy gauge copper-bearing steel, angle and band iron frame and bracings. Cast iron oven doors, braces, brackets, feet and oven bottom. Super Metal linings and pans. Perfect baking ovens are larger than found in most ranges—size 24x20x14.

For manufactured, natural or any kind of bottled gas. SPECIFY KIND OF GAS USED.

NOTE—Manufacturers complete catalog will be sent on request.

DOUBLE OVEN RESTAURANT RANGE

Admirbaly meets needs of medium sized cafe or restaurant. Two ovens, each 24x20x14. Eight open top burners. Polished solid griddle top over broiler 22½x22, with grease drain in rear. Top surface, 68x25½. Overall 73x31x34. Weight 830 lbs.

No. N600BHS—With broiler and porcelain shelf. Each $267.50
With plain steel shelf, deduct 18.00
Without broiler, deduct 16.00

SINGLE OVEN, SIDE BROILER CAFE RANGE

One oven 24x20x14. Side broiler consists of closed top 22½x22 with broiler beneath. Drippings and grease are caught in the funnel-like pan and drop in the refuse drawer. No danger of fire. Six open top burners. Four burners under closed top. Top surface 56x25½. Overall 61x31x34. Weight 575 lbs.

No. N50GBH—With plain steel shelf. Each $211.20
With porcelain shelf. Each 227.30

SINGLE OVEN, 8 BURNER CAFE RANGE

Complete model for small cafe. One oven 24x20x14, and built-in broiler. Four open top burners; four string burners under closed top. Top surface 45½x25½. Overall 48x45x34. Weight 485 lbs.

No. N40BH—With broiler and plain shelf. Each $164.00
Without broiler, deduct 16.00
With porcelain shelf, add 14.00

SINGLE OVEN, 6 BURNER CAFE RANGE

Very popular in lunch rooms, boarding houses, factory cafeterias and small church kitchens. One oven, 24x20x14. Six open top burners. Top surface 34x25½. Overall 48x31x34.

No. N30H—With plain shelf. Each $124.20
Without shelf, deduct 15.10
With porcelain shelf, add 11.90

All shipments f. o. b. factory, Quincy, Illinois

We Can Furnish From Local Stock A Complete Line Of

WROUGHT STEEL CAMP and HOTEL RANGES

STEAM TABLES

PORTABLE BAKE OVENS

CANOPIES

SAUCE PAN RACKS

DISH HEATERS

URNS and URN STANDS

WATER, MILK and CREAM COOLERS

and Similar Equipment.

GAS CIRCULATOR HEATERS

SECURITY

THE SECURITY CONSOLATOR
For Natural or Artificial Gas

This new gas heater has been designed to meet the requirements of our distributors for a home heating furnace of from four to six room capacity. It combines the advantages of the circulator type with the heating comfort obtained from the radiant fire type.

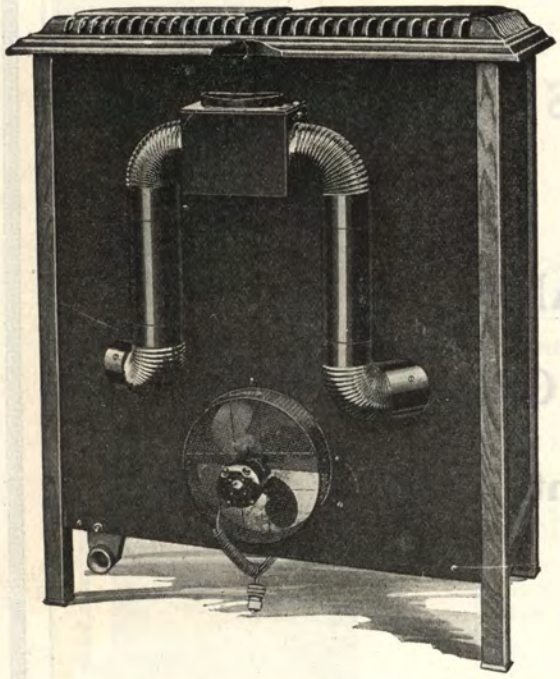
When fired, the cold air from the floor is drawn upward over the heater surfaces and flows out through the large front register to all parts of the home. This circulation is continuous and insures comfortable heat in the most remote corners of the home. The clay refractories become red hot and radiate warmth and cheerful glow through the two swinging front mica doors.

Finished in grain walnut porcelain.

LESS ELECTRIC FAN

Normal hourly input, 100 cu. ft. (100 B. t. u. Natural Gas)

No.	100H
Height, inches	46
Width, inches	39½
Depth, Inches	20
Shipping Weight, pounds	340
List Without Fan	$130.00



The purpose of the electric fan attachment is to increase the volume of air passing through the heater. Each particle of air, in order to become heated, must come in contact with something warmer than itself, and therefore the greater the amount of air moved over the heated surfaces the greater will be the amount of space heated. Radiant heat only heats the air indirectly.

Rear View

WITH 10-INCH ELECTRIC FAN

Normal hourly input, 110 cu. ft. (1000 B. t. u. Natural Gas)

No.	100HF
Height, inches	46
Width, inches	39½
Depth, Inches	20
Shipping weight, pounds	340
List With Fan	$150.00

IDEAL FOR HEALTH, COMFORT AND ECONOMY.

GAS CIRCULATOR HEATERS

SECURITY

A beautiful piece of furniture finished in grained walnut porcelain. All SECURITY Heaters are made of copper bearing steel and are WELDED ABSOLUTELY GAS TIGHT.

No. 50A

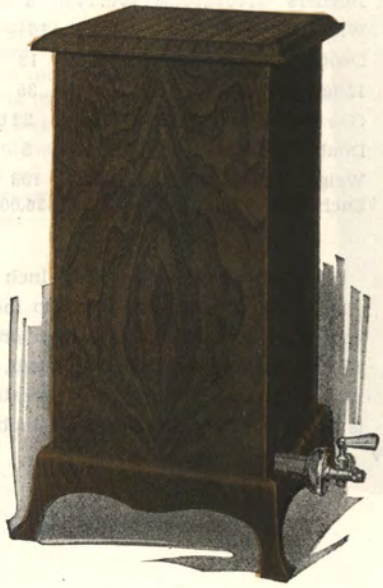
Nos.	22A	35A	50A	70A	50AF	70AF
Burners	1	1	2	2	2	2
Width, Inches	19½	27¾	27¾	33¼	27¾	33¼
Depth, Inches	13	14	18	18	18	18
Height, Inches	35	40	43	45	43	45
Gas Con. Per Hr. (Nat Gas)	22 to 25	35 to 40	50 to 60	70 to 80	60 to70	80to90
Double Radiants	5	8	6	8	6	8
Weight, Each, lbs.	108	180	195	240	200	245
Each list	$36.00	$54.00	$80.00	$100.00	$92.00	$112.00

No. 5AF is equipped with 8-inch and No. 7AF with 1-inch electric fan. The purpose of the electric fan is to increase the volume of air passing through the heater. Each particle of air, in order to become heated, must come in contact with something warmer than itself, and therefore the greater the amount of air moved through the heater the greater its heating capacity. The air from the fan is forced directly through the 4-inch tubes which pass through center of heater.

No. 35A
Open View
Showing Baffles

Rear View No. 50AF
Showing Electric Fan Attachment

SECURITY SPACE HEATER



These Heaters are made throughout of Armco Ingot Iron. The interior construction not only provides a maximum fire travel but forms a very large radiating surface which insures the greatest possible efficiency. The tubes are rolled-in top and bottom. The heating unit is electric welded and therefore gas tight.

The No. 25GP and No. 40GP Security Circulators have been designed to give maximum value at minimum price. Every unnecessary feature has been eliminated and the result is an excellent heating value. Inner unit of copper-bearing steel, welded gas tight. Exterior finished in Walnut porcelain enamel.

Number	25GP
Normal Capacity, Cubic Feet	25
Height, inches	25
Width, inches	14
Depth, inches	13
Shipping weight pounds	55
Each List	$25.00

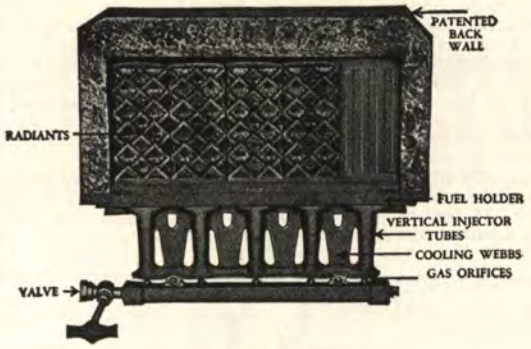
SPACE HEATERS

RADIANT Grand GAS HEATERS

FOREWORD

After examining many types and makes of space heaters and being determined to carry on with the same high standard of merchandise which we handle in all our other lines, we have chosen the Radiant Grand line of heaters. The many exclusive features offered in this line follow:

GRAND SUPER-COMBUSTION UNIT



RADIANT Grand GAS HEATERS

Venturi Tube Principle, gives greatest injection power to gas jet and most efficiently conserves and amplifies its energy.

Non-adjustable, positively free from all air and gas adjustment.

Mixing Tubes, Orifices, fixing lugs, and orific bosses machined and drilled to a high degree of accuracy, insuring perfect flow of gas and freedom from impingement.

Lava ports, that not only safeguard against the possibility of corrosion, but eliminate warping and carbonization.

The intake valve is reversible, making considerable saving in installation. By removing intake manifold from stove it will allow easy and quick installation in close quarters and grate openings.

RADIANT Grand GAS HEATERS

MODEL NO. 410

The graceful andirons and acanthus leaf crosspieces, finished in Antique Brushed Brass, and the heavy cast hearth, beautifully polished and high lighted, give much of the charm of the beautiful fireplace that characterized many of our old colonial mansions.

Pastel shading on the specially surfaced backwall and radiants gives the final touch to this fireplace symphony.

Equipped with Grand Super Combustion Unit.

Furnished in two sizes, five and six double radiants.

‡**No. 410**—20¾ inches wide, 19½ inches high, 8 inches deep and has andiron spread of 32½ inches. Each $28.50
No. 412—23¾ inches wide, 21¾ inches high, 8 inches deep and has andiron spread of 35½ inches. Each $33.00

MODEL NO. 210

Forceful lines, significant of the present day trend in architecture and fraught with new beauty, are characteristic of this heater. Yet, so skillfully has the artist handled them, that this unit is in harmony with the furnishings of any well appointed room.

The soft tones of Ivory and Brown on the modernistic backwall and radiants are in complete harmony with the shaded Old Gold and bronze of the andirons and crosspiece.

Andirons, Hearth and Cross-piece are made of durable cast iron.

Equipped with Grand Super Combustion Unit.

Four sizes—four, five, six and seven double radiants.

‡**No. 208**—17½-in. wide, 19¼-in. high, 8-in. deep—Each $15.00
No. 210—20½-in. wide, 19¼-in. high, 8-in. deep—Each.. 17.50
‡**No. 212**—23½-in. wide, 19¼-in. high, 8-in. deep—Each 21.50
No. 214—26½-in. wide, 19¼-in. high, 8-in. deep—Each. 26.00
Andiron spread 3 inches more

Items marked thus ‡ not carried in stock but shipped direct from factory.

SPACE HEATERS

RADIANT GRAND FIREPLACE Model No. 810

A beautiful new design in fireplace fitting, makes a most attractive device for completely replacing obsolete gas or coal grates and is adaptable for new homes as well.

Hood, and Cross-Piece are made of durable cast iron, and finished in beautiful Colonial brass.

Extreme Top and Bottom Frames and Side Frames are made of very heavy steel, finished in brown and gold lacquer.

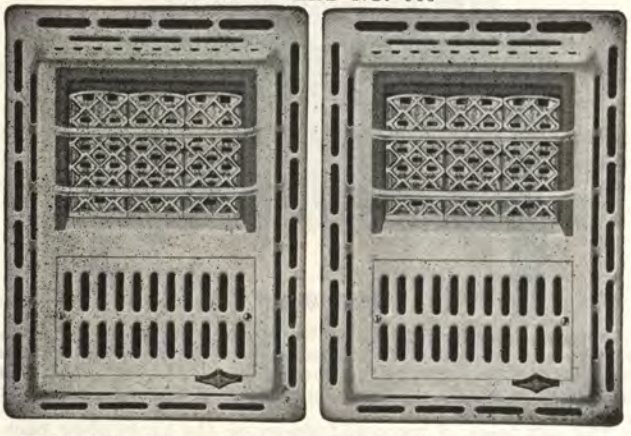
Equipped with Grand Super-Combustion Unit.

Two sizes—five and six double radiants.

‡**No. 810**—28-inches wide, 32-inches high, 6½-inches deep and fits openings 21½ inches wide by 22 inches high to 26½ inches wide by 31 inches high. Each $27.50

‡**No. 812**—31-inches wide, 32-inches high, 6½-inches deep and fits openings 24½-inches wide by 22½ inches high to 29½ inches wide by 31 inches high. Each $32.50

WALL INSERT NO. 906



A charming design of the insert type—adaptable to bathroom hall or kitchen. This heater requires no additional space and they are so desirable for fall and spring heating.

Double walled insert box is insulated with one quarter inch asbestos and three quarter inch to one inch air spaces.

Easily installed and being equipped with Grand Super Combustion Unit requires no valve or air adjustments.

Approved by American Gas Association Laboratories.

Size of front—16 inches wide, 22 inches high.

Size of Insert Box—13⅞ ins. wide, 19¾ ins. high, 4 ins. deep.

No. 906W—White Porcelain. Each $37.00

No. 906G—Green Porcelain. Each 37.00

MODEL NO. 310

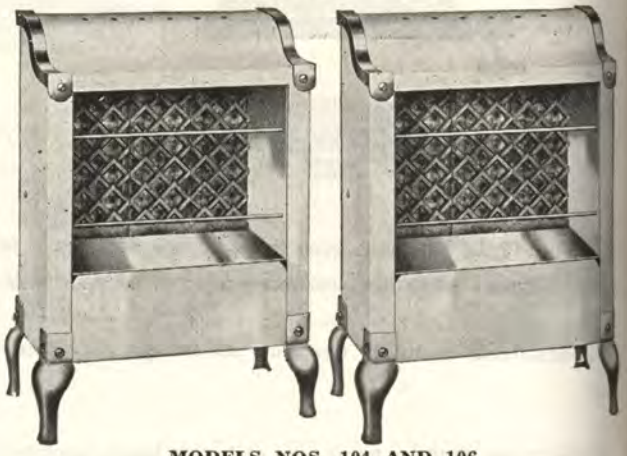
This most unusual design is typical of the new art that characterizes beautiful creations of the leading interior decorators of this country.

The grandeur of the back wall is accentuated by the warm shadows of brownish tints on Old Ivory and the commanding dignity of the base is emphasized by the rich Colonial Brass Finish.

Created to give the fireplace personality, and has sufficient character to stand alone as a space heater.

Equipped with Grand Super Combustion Unit and five double radiants.

No. 310—24 inches wide, 19 inches high, 8½ inches deep and has an andiron spread of 24 inches. Each $22.50



MODELS NOS. 104 AND 106

The strong, straight lines offset by graceful curves, give this little heater a distinctive and dignified appearance.

The outside frame is formed of heavy gauge metal finished in glossy white or jade green vitreous porcelain enamel. Reflectors, legs and hood trims are fully protected by a heavy coating of satin nickel.

Backwall and radiants are delicately tinted in ivory.

Equipped with Grand Super Combustion Unit.

Intended for use in bedroom, bath or kitchen.

Available in sizes two and three double radiants.

No. 104W—White—10½ inches wide, 19½ inches high, 7¼ inches deep. Each $10.50

‡**No. 104G**—Green—10½ inches wide, 19½ inches high, 7¼ inches deep. Each 10.50

‡**No. 106W**—White—13½ inches wide, 19½ inches high, 7¼ inches deep. Each 12.50

No. 106G—Green—13½ inches wide, 19½ inches high, 7¼ inches deep. Each 12.50

Items marked thus ‡ not carried in stock but shipped direct from factory.

THE SECURITY GAS FURNACE

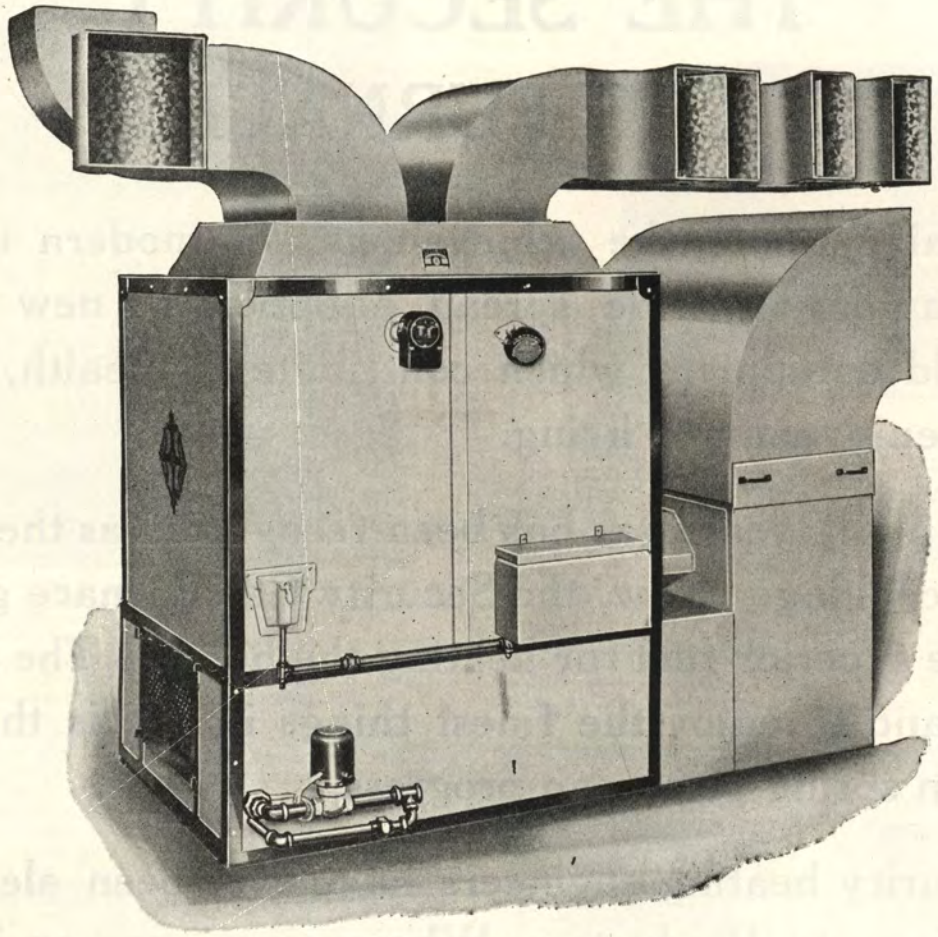
Notable among the achievements of modern industries is the rapid and wide spread adoption of new types of household equipment which contribute to health, comfort and the enjoyment of living.

For many years gas has been recognized as the superior fuel for cooking. Now, the Security Gas Furnace gives you the same superior fuel for heating the home. The ambition to own and to enjoy the finest things in life is the motive and main spring of human progress.

Security heating engineers have ever been alert to improve Security Products. Wherever science or ingenuity has found improvement possible, such improvements have been made Today, the Security Gas Furnace stands out as the leader in both product and service in the furnace industry. It represents the results of several years of intensive research and development work backed by the ample Security facilities and 40 years of successful manufacturing experience in building heating appliances.

All That The Name Implies

SECURITY GAS FURNACE



For specifications and prices see page 848.

The above illustration is intended to show how the furnace looks when completely equipped with blower, air filter, automatic controls and canopy arrangement for flat air ducts used on forced air jobs.

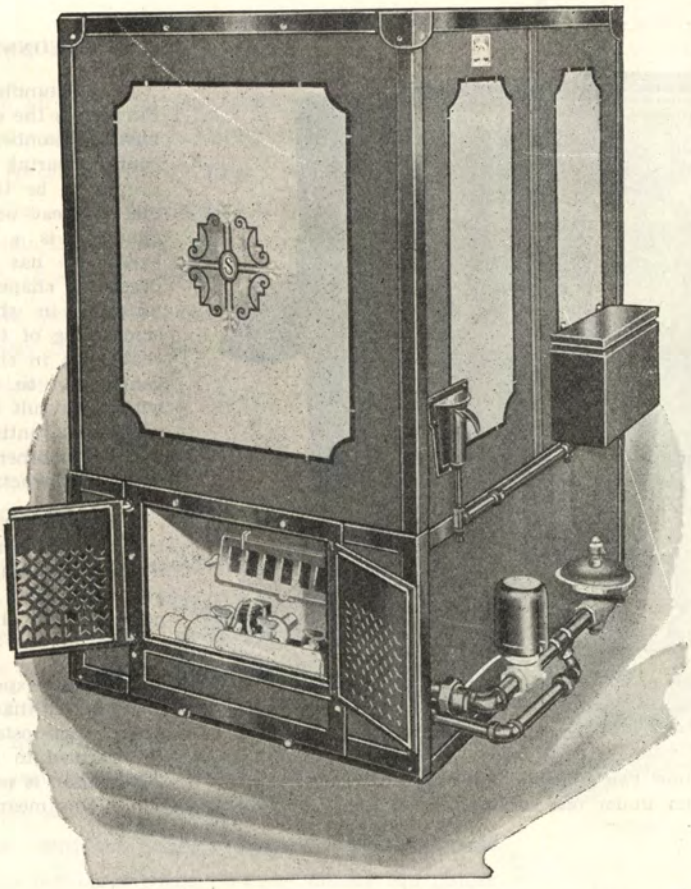
The basic and most important construction features of the Security Gas Furnace are that maximum efficiency has been obtained by producing perfect combustion and this perfect combustion is thoroughly utilized and converted into available heat. The Security Gas Furnace is dependable because it has been well built. It is economical and gas saving because it has been properly designed.

Security Gas Furnace is neat and attractive in appearance. The entire gas manifold containing the gas cocks is placed within the furnace itself. The casing is regularly furnished in galvanized steel, but for a slight additional charge, may be had in either two-tone red or lettuce green color. It immediately changes the entire character of the basement. It can be transformed into a gymnasium, playroom or recreation room. To meet the heating requirements of homes of every size, the Security Gas Furnace is made in nine different sizes. Thus, an extremely wide range of heating capacities is made available.

CONFORMS WITH NATIONAL SAFETY REQUIREMENTS · AMERICAN GAS ASSOCIATION · APPROVED

GAS FURNACE

SECURITY



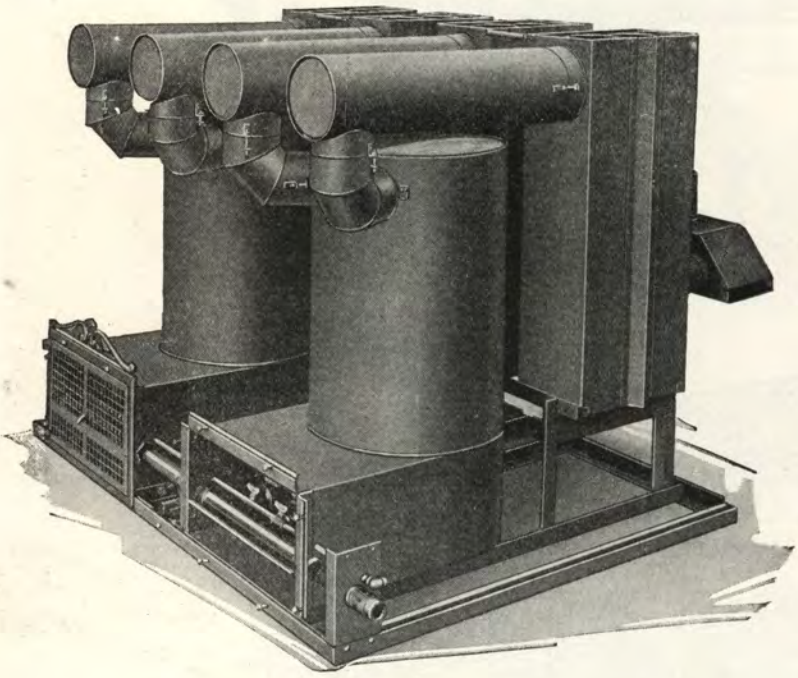
TWO-TONE FINISH—WINE COLOR WITH CRIMSON RED PANELS

For specifications and prices see page 196.

Gas heat is healthful heat. It creates no dust, soot or smoke. Requires no bins or storage tanks. This clean burning fuel can throw off nothing that might injure the family's health or affect the cleanliness of the home. There is absolutely no furnace tending in Security heated homes. Automatic heat is on the job 24 hours a day. A room thermostat controls the heat. The fuel supply never runs out. Once a year you light the pilot—THAT IS ALL.

Its
Welded
Gas
Tight

SECURITY GAS FURNACE



Above cut illustrates how two or more units may be placed together under one canopy.

CONSTRUCTION DETAILS

An outstanding feature of the Security Gas Furnace is the durable construction. The combustion chamber is formed of 14 and 16-gauge copper bearing steel that various tests have proven to be the best to withstand corrosion due to heat or rust. The main combustion chamber is a tall cylindrical drum which experience has demonstrated to be the most practical shape. Combustion chambers rectangular in shape are very apt to cause smothering of the flame due to eddy currents that form in the corners, causing products of combustion to return over the burner head, with the result that the flame is partially, and sometimes, entirely extinguished. The flame will not smother out in this new improved Security construction.

A further advantage of the cylindrical combustion chamber is the absence of "popping" noises that occur in combustion chambers that are rectangular in shape. The Security Furnace is quiet when heated up rapidly or when cooling off.

It is our experience that steel construction is far better than cast iron for the reason that where thermostatically controlled, the rooms are warmed to the desired temperature much sooner than is possible with cast iron construction. This means greater efficiency and lower gas bills.

The products of combustion pass out of the combustion chamber through two heavy welded elbows at the front, then through two heavy welded round radiators at the top and downward through two large rectangular shaped radiators at the rear. In this way the greatest possible amount of heat is extracted from the combustion products and a low stack temperature is obtained. The furnace sets on a welded one-piece angle iron base.

CASING

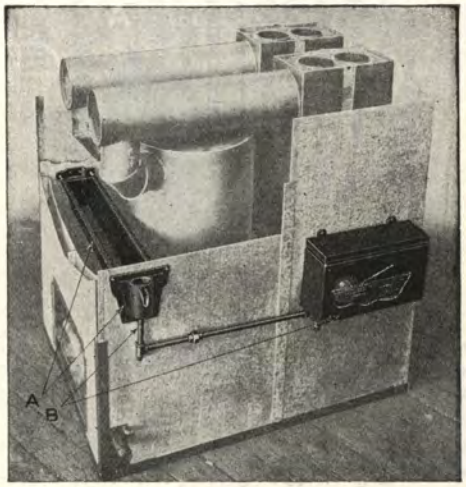
The casinge are of 24-gauge galvanized iron finished in lettuce green, wine color with crimson red panels, or in galvanized as desired. The front, rear and two sides are complete sections. The bottom edge slides into a groove in the bottom casing. The four corners are fastened with metal screws, which are hidden by the baked-on black Japanned steel trimmings. The inner linings are fastened to the outside sheets with a one-inch air space between, so that the heat absorbed in the lining is wiped off from both sides. A triple lining is provided at the top.. When the Security Furnace is operated at full capacity very little heat is lost into the basement.

SECURITY GAS FURNACES

AIR MOISTENER

Unless otherwise specified an air moistener is supplied with each furnace. (See Pan "A" in cut.) This pan is of ample capacity. It is made of Armco rust-resisting iron finished in porcelain enamel. It is supported on two rods and made to slide out for cleaning. Has cast iron end with overflow spout.

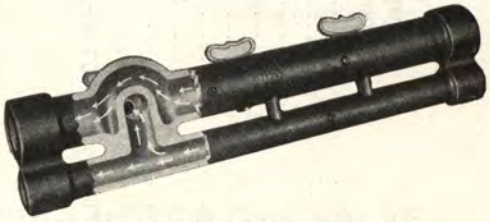
For automatic filling a porcelain finished tank (see parts "B" in cut) is fastened with metal screws to side of casing. This tank is equipped with copper ball float cock that automatically maintains the water at a constant level. The tank being located entirely away from the heat zone, the troubles incident to most air moisteners are entirely eliminated.



View showing air moistener installation. Pan A is furnished as regular equipment. Parts B for automatic filling furnished extra if desired.

DOUBLE MANIFOLD

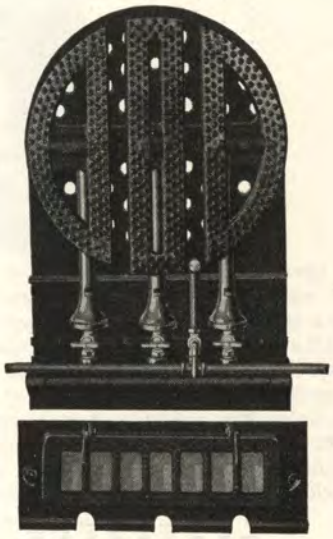
The manifold through which the gas passes to the gas cocks is unique in construction in that it is double. (See Cut.) Below the main large pipe there is a smaller pipe running parallel to it through which gas is fed into the left-hand burner head independent of the other two burner heads. The object of this construction is to do away with what is known as "Cold 70" or in other words, stratification of the air in the room. Where gas furnaces are operated automatically, the source of heat is entirely stopped when the thermostat closes the gas valve. The result is cold temperatures at the floor before the thermostat again calls for heat. With the Security double manifold this fault is corrected by turning off the left-hand burner entirely during the milder weather and leaving it turned on during the cold weather. The left-hand burner is not effected by the thermostat and, therefore, the furnace does not cool down.



View showing double manifold

THE BURNERS

The burner is made in three sections in Nos. 400 and 600, and four sections in No. 800. The burners are cast iron with drilled raised ports. The primary air mixer tubes have venturi-shaped mixer throats and cast iron adjustable mixer shields. The secondary air is directed through a bottom flue and made to enter the combustion chamber through 1-inch holes beneath burner heads. The combustion chamber is shut off from the manifold space by a mica door hinged at top. This door acts as a relief door in case an explosion occurs due to carelessness in lighting burner.



View looking down on gas manifold and burner assembly. Also inside mica flap relief door.

SPECIFICATIONS

And Price List

SECURITY GAS FURNACE

Manual Control---With Water Pan "A"

No.	No. Units	Normal B. t. u. Input Per Hour	B. t. u. Output at Canopy Per Hour	Sq. In. Warm Air Pipe Capacity Stand. Code	Approximate Heating Capacity Cu. Ft.	Casing Size	Height	LIST PRICE			Shipping Weight
								Red Finish	Green Finish	Galvanized Finish	
400	1	100,000	75,000	400	7,500-10,000	34½x48½	59	$195.00	$190.00	$180.00	500
400	2	200,000	150,000	800	15,000-20,000	69 x48½	59	365.00	360.00	350.00	950
400	3	300,000	225,000	1200	22,500-30,000	103½x48½	59	535.00	530.00	520.00	1400
600	1	145,000	108,750	600	10,000-16,000	38½x51½	59	215.00	210.00	210.00	650
600	2	290,000	217,500	1200	20,000-32,000	77 x51½	59	405.00	400.00	390.00	1270
600	3	435,000	326,250	1800	30,000-48,000	115½x51½	59	595.00	590.00	580.00	1830
**80 0	1	200,000	150,000	800	15,000-20,000	48½x55½	59	265.00	260.00	250.00	725
**800	2	400,000	300,000	1600	30,000-40,000	97 x55½	59	505.00	500.00	490 00	1380
**800	3	600,000	450,000	2400	45,000-60,000	145½x55½	59	745.00	740.00	730.00	2035

To be Specified:

*For Pressure regulator add to list (¾"—$9.00) (1"—$10.00) (1¼"—$14.00) (1½"—$19.00) (2"—$30.00).

*For A. G. A. approved main line gas cock.....Add to list $ 4.00

For Thermostat (4010 Minn.-Hon.).....Add to list 26.00

For Electric Clock Thermostat (T12-1 Minn.-Hon.).....Add to list 76.00

For Electric Motor Gas Valve (V15-1 Minn.-Hon.—1").....Add to list 44.00

For Furnacestat (Type L47-1 Minn.-Hon.) for blower fan control.....Add to list 23.00

For Warm Air Low Limit Control (B6510F Minn.-Hon.).....Add to list 26.00

For Automatic Pilot (C80-1 Minn.-Hon.).....Add to list 20.00

For Automatic Water Pan Filler "B"—See cut page 210.....Add to list 15.00

If wanted without water pan "A"—See cut page 210.....Deduct from list 9.00

For Emerson Blower Fan or Air Filters—Prices quoted on application.

*These items must be specified if furnace is wanted with A. G. A. Label.

**This size not yet approved by A. G. A., but no doubt will be soon.

EXTRA EQUIPMENT FOR SECURITY GAS FURNACES

PRESSURE REGULATOR

The reason for using pressure regulators is that while all gas appliances are tested and approved and sent out for gas pressure of four ounces, which is equivalent to seven inches, this does not mean that the pressure may not be considerable more than this at the place the appliance is put into use. A pressure regulator will not increase a low pressure, but it will hold down a pressure that exceeds four ounces. If care is not taken to guard against abnormally high pressures the result will be that the appliances may receive more gas than it was built to receive, and improper combustion and inefficiency, therefore results.

AGA APPROVED MAIN LINE GAS COCKS

The reason the A. G. A. Testing Laboratories require the use of gas cocks which bear their approval is that a great percentage of unapproval gas cocks do not have sufficiently large openings through the barrel of the cock to permit the proper amount of gas to pass through at normal pressure. Furthermore, they have certain requirements—for instance, the spring on the barrel of the cock to take up any wear, which is important, etc.

ELECTRIC CLOCK THERMOSTAT

The type T12-1 Electric Clock Thermostat operates from the house lighting circuit and requires no attention from the user. It automatically reduces the thermostat setting at a pre-determined time at night and raises it to the day setting of the thermostat in the morning. The electirc clock movement is a synchronous type and is silent in operation. A low voltage transformer is furnished with each thermostat. In event of power failure when current is resumed, the clock restarts itself. The clock motor has an exceptionally low rate of revolution, 200 R. P. M. Used on regulated frequencies the clock keeps absolute correct time. The L. L. models or Low Limit Cut Out model is equipped with an extra set of contact blades that serves, when necessary, to regulate the operation of a Low Limit Control to prevent overheating.

All models Low Voltage—for 60 cycle operation only. Type T12-1, T12-1LL (Series 10) Type T22-1, T22-1LL (Series 20.) Electric Rating: 20v. Adj. Range: 55 to 85 degree F. Diff. (adj.) 2 degree F., Finish Silver.

TYPE 77, 7710, 40, 4010 THERMOSTATS

The type 77 and 7710 clock Thermostates automatically lower the thermostat setting at night and raise it again to the day time setting in the morning. It is only necessary to wind the clock every eight days. With the exception of clock control the Type 40 and 4010 plain thermostats are identical with the 77 and 7710. Like the electric clock thermostats this type of thermostat includes LL models. All models Low Voltage.

Type 7710, 4010, 7710LL, 4010LL (Series 10).

Type 77, 40, 77LL, 40LL (Series 20).

Electric Rating: 3A, 25V.

Adj. Range: 55 to 90 Degree F.—Diff. (Adj.): 2 to 8 degree F. Finish: Clock Thermostats, Silver; Plain Thermostats, Bronze.

TYPE V15-1 MOTOR GAS VALVE

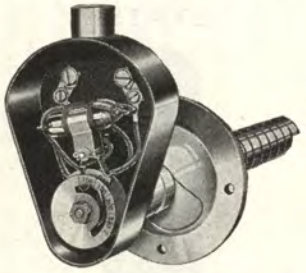
The compact Type V15-L incorporates a low voltage motor and is furnished with external transformers. Type V-15-1 is equipped with an external arm which serves both as a manual control lever and a secondary air damper control arm. The motor operates on the stalled motor principle. In event of power failure the valve can be opened manually. When power is resumed it will recycle to the position demanded by the automatic controls. Type V15-3 is the same as Type 15-1 except that it includes a Mercury Switch for controlling fan motor operation. Designed for 60 cycle operation only. Use Type F2210 for odd cycle operation.

Type V15-1 (Series 10).

Type V15-3 (Series 10) equipped with Mercury Switch rated at 10A, 110 V.; 5A. 220 V. A. C.,

EXTRA EQUIPMENT FOR SECURITY GAS FURNACES

TYPE L47-2 FURNACESTAT



This control starts the fan motor when the temperature reaches a predetermined point circulating the warm air through the system. It shuts off the fan motor when the bonnet temperature drops below the Furnacestat setting. Thus, no cold air is forced up through the system. Type L47-2 is Mercury Switch equipped. Having an adjustable differential, fan operation may be varied to suit the particular installation.

Type L47-2 (Series 40) for 2 wire line voltage circuits.

Motor Ratings: ¾ H. P., 100-250 V., R.I., ⅙ H. P., S. P. or D. C.

Resistance Loads: 10A, 110V; 5A, 220V.

Scale Range: 100 degree to 250 degree F.

Maximum Differential 250 degree; Minimum, 10 degree F.

WARM AIR LIMIT CONTROL

This unit is available in two types, one being for use on warm air furnaces to control bonnet temperatures; the other is recommended for the accurate control of boiler water temperatures. The bimetallic element of this model is enclosed in a protecting well so that it will not be effected by water. It is widely used on Summer-Winter Control Systems. The Type B used on furnaces has suffix letter "F". Type B6510 is used as part of the Low Limit Control Systems on hot water systems and the "F" model on warm air heating plants.

All models low voltage Type B6510 and B6510F (Series 10.)

Type B2 and B2F (Series 20).

Scale Range: "F" Models 100 to 310 degree F. Other Models. 100 to 240 degree F. or 60 to 270 degree F. (Specify).

TYPE C80-1 AUTOMATIC PILOT

This pilot is for use with Series 10 and 2 wire low voltage valves. Sufficient contraction of the bimetal in the pilot breaks the circuit to the main valve preventing gas flow to the burner. This pilot is especially suitable for installation that requires an angle type pilot. The Type C80-1 has the mixer located in the gas pipe immediately in front of the bracket supporting the electrical contact assembly.

SANICO

America's Most Beautiful Range

Every woman is entitled to a beautiful range. No longer need her kitchen be shrouded by the dull, uninteresting, colorless appearance of a worn-out ungraceful range. The modern range is now a thing of genuine beauty—rich in happy colors that bring cheer to the hours that women so generously spend in their kitchens.

The New Sanico is truly America's most beautiful range. You will be proud to own one of these handsome thoroughbreds. It makes the kitchen a pleasant, livable room—a place where even guests can be welcomed without apology.

a beauty and a joy forever

STOVES AND FURNACES

SECURITY

METHODS OF RATING CAPACITY OF FURNACES

There are two methods of stating the capacity of warm air furnaces. The "Standard Code" method was arranged for the onveniences of furnace installers who were accustomed to think of the heating requirements of a room, or of a building, in erms of square inches of warm air pipe area rather than in heat units. The factors were so arranged that heat losses in the asement between the canopy and the register were **included** in in the rating of the furnace **at the register** in square inches. The American Gas Association rate gas furnaces in British Thermal Units (B. t. u.) **at the canopy.** The basement losses are xactly the same regardless of the kind of fuel burned, and must be accounted for in the total heating load. The Standard Code formula for rating furnaces deducts 25% of the heat at canopy in order to rate furnaces in square inches at the register. This deduction is just as necessary in one furnace as in the other. There is no magic way to overcome that loss. Printing 10, 5 or 20% basement loss in a catalog does not make it true. Oversight concerning this item has resulted in the publication of many catalog ratings which probably give correct B. t. u. output at canopy, but give ratings in square inches of warm air pipe rea 25 to 30% in excess of actual capacity. Our table of capacities is so arranged that the correct and incorrect ratings may e compared. The black face ratings in square inches are correct and are at the register.

Table No. 1

Capacity in sq. in. of warm air pipe area.

Rated WITHOUT and WITH losses between canopy and register

No. of Units	No. of Units	Input B. t. u.	Output B. t. u.	100% to 1st Floor		50% to 1st Floor		Standard Code Rating (includes basement loss)
				No Loss Allowed	With Loss Allowed	No Loss Allowed	With Loss Allowed	
400	1	100,000	75,000	681	**505**	562	**432**	**400**
400	2	200,000	150,000	1362	**1010**	1124	**864**	**800**
400	3	300,000	225,000	2043	**1515**	1686	**1296**	**1200**
600	1	145,000	108,750	980	**734**	818	**627**	**600**
600	2	290,000	217,500	1960	**1468**	1636	**1254**	**1200**
600	3	435,000	326,250	2940	**2102**	2454	**1881**	**1800**
800	1	200,000	150,000	1362	**1010**	1124	**864**	**800**
800	2	400,000	300,000	2724	**2020**	2248	**1728**	**1600**
800	3	600,000	450,000	4086	**3030**	3372	**2592**	**2400**

COMPUTATION OF COST OF BURNING GAS IN A SECURITY GAS DESIGNED WARM AIR FURNACE

It is not possible to foretell closely the cost of burning gas for heating purposes. In order to make any sort of calculation very factor must be assumed when in fact they are mostly unknown. The term "Degree Day" is useful for computations of the past. But no one knows what the heat requirements of the next month or the next winter will be. We submit the following formula. If you guess the Degree Days correctly. If you guess correctly the temperature and the hours that heat will be used, as well as the other factors involved, this formula will give you the cu. ft. of gas required. You can then apply the local gas rate to find the cost for the period covered. It is also assumed that the entire heating system (warm air pipes, returns, etc.), are all ample to cary air to and from the furnace.

FORMULA TO ESTIMATE GAS COSTS

$$\frac{(\text{H plus B}) \times \text{DD} \times 24}{\text{T} \times \text{E} \times \text{C}} = \text{cu. ft. of gas used.}$$

Where H = calculated heat loss of building in B. t. u. per hour.

B = Percent of loss from canopy to register. The "Standard Code" gives heat at register as 75% of the heat delivered at canopy. Therefore, 33⅓% should be added to the room loss to give B. t. u at canopy. (Furnaces are rated in output capacity by the A. G. A. in B. t. u. at canopy.)

DD = Degree days of locality for period calculated (one month or one season).

24 = 24 hours per day.

T = Average temperature maintained in house (70° for 16 hours and 60° for 8 hours = 66⅔ average).

E = Heater efficiency at bonnet.

C = B. t. u. content of one cu. ft. of gas.

To obtain B. t. u. loss of a building use table "A" in Standard Code as follows: Divide net wall, glass, ceiling and cubical contents by devisors given in Table "A." Add the results obtained and multiply by 1000. This will give the B. t. u. that must be delivered at the registers.

Example: a house has—

1800 sq. ft. of net wall
360 sq. ft. of glass
685 sq. ft. of ceiling
16000 cu. ft. of contents

Let us suppose that the divisors, 60 for wall, 12 for glass, 57 for ceiling, and 800 for cu. ft.—apply. Then—

1800	divided by 60	equals 30
360	divided by 12	equals 30
685	divided by 57	equals 12
16000	divided by 800	equals 20
Total		92

92 × 1000 = 92,000 B. t. u. loss at registers.

Example showing application of cost formula.

(H plus B) = 92000 plus 33⅓% = 122667.

DD = 1200 for month of January.

24 = 24 hours.

T = 65° keeping house at average of 65 for 24 hours.

E = .75 A. G. A. maximum rating.

C = 1000 B. t. u. per cu. ft. of gas.

Then $\frac{122667 \times 700 \times 24}{65 \times .75 \times 1000} = 72467$ cu. ft. of gas

If the price of gas is 50c per M the cost for January would be $34.73. If 5000 D.D. for a season be used instead of the month, the cu. ft. of gas used would be 302000 and the cost would be $151.00.

You will notice that the month of January cost just a little less than one-fourth of the entire season. Many users complain of high gas bills in a cold month, but do not understand how large a percentage it is of the total season. You may also notice that the amount of gas used under the conditions assumed and in this house, that the gas used is about 19,000 cu. ft. for each 1,000 cu. ft. of contents. However, we urge you, strongly, not to think of buildings in terms of cu. ft. It is absolutely an unreliable method.

SECURITY STOVES AND FURNACES

JUST A WORD ABOUT FURNACE EFFICIENCY

The American Gas Association approves no furnace that does not show at least 70% efficiency. Likewise, it gives no furnace a higher rating than 75%. Here is the reason: The heating value of natural gas includes a considerable portion of hydrogen. In burning the hydrogen forms **water vapor.** In cooling to water, somewhere beyond the smoke collar, heat is lost amounting to between 10 and 12½%—let us call it 11%. The Standard Code fixes the standard temperature at a register as 175°. The temperature at the canopy will then be around 200 degrees. In order for the hot gases in the furnace to impart heat through the heating surfaces they must, in order to be efficient, be much hotter than the air it heats. They must leave the furnace collar at around 355 degrees temperature. The loss of heat in the gas fumes cannot be less than 2¼% for each 100 degrees of temperature at the smoke collar. 355 degrees at 2¼% equals 8%. The loss of heat into basement floor under furnace and through the casing and canopy even with high insulation, equals about 6% or more. Therefore, 11% water loss, plus 8% gas fume loss, plus casing loss equals 25%. This leaves 75% at the canopy for transportation to rooms. It is apparent that the A. G. A. maximum should not be greater.

DEGREE DAYS

The term "Degree Day" (written D.D.) is a figure which is the product of one day (24 hours) times the number of degrees the average mean temperature, outside, is below 65 degrees. If the average mean temperature of a day is 64 degrees, the difference of one degree is called one "Degree Day". If it is ten degrees above zero the difference is 55 and is called 55 degree days. Add together the number of degree days for the heating season beginning in the fall and ending the following spring. The result is the total degree days for the heating season for that particular locality. Tht following table gives the degree days for a number of cities, based on the average of a fifty-year period.

	Coldest Day	Average Degree Days For Season
Little Rock, Ark.	12 below zero	2861
Duluth, Minn.	41 below zero	9650
Minneapolis, Minn.	33 below zero	7953
Kansas City, Mo.	22 below zero	5302
St. Joseph, Mo.	24 below zero	5289
Marshall, Mo.		5042
Lincoln, Nebr.	29 below zero	6231
Omaha, Nebr.	32 below zero	6127
Boulder, Colo.		5665
Colorado Springs, Colo.	27 below zero	10089
Denver, Colo.	29 below zero	5880
Springfield, Ill.	24 below zero	5495
Burlington, Iowa		6261
Marshalltown, Iowa		7103
Des Moines, Iowa	30 below zero	6464
Leavenworth, Kas.	28 below zero	4795
Salina, Kas.		5030
Topeka, Kas.	25 below zero	5282
Wichita, Kas.	22 below zero	4675
Albuquerque, N. Mex.		4401
Santa Fee, N. Mex.	13 below zero	6064
Oklahoma City, Okla.	17 below zero	3827
Tulsa, Okla.	15 below zero	3497
Sioux Falls, S. D.	35 below zero	7683
El Paso, Texas	10 below zero	1912
Dallas, Texas	10 below zero	2455
Amarillo, Texas	16 below zero	4655

The average monthly D.D. of an average winter is in percentage about as follows, except in extreme climates:

October	November	December	January	February	March	April	May
5%	13%	19%	*23%	19%	14%	6%	1%

* Nearly one-fourth of the entire season.

STOVES AND FURNACES

SECURITY

SIZE OF WARM AIR PIPES

In calculating warm air pipe sizes required for various rooms we urge compliance with the methods laid down in the "Standard Code". (Copies of same can be obtained by writing The National Warm Air Heating Assocaition, 3440 A. I. U. Building, Columbus, Ohio.) Table No. 2 gives the area in sq. in. of pipe area for thirty-two different sized rooms. Note carefully the assumptions upon which it is based. The divisors used in this calculation are: Net wall 60, glass 12, cu. ft. 800. The cubical contents are also given in the center of each set of figures.

Example: A room 10x12 ft. with two walls exposed and on the first floor requires 62 sq. in. of basement pipe area. The same room on second floor with three walls exposed requires 56 square inches of basement pipe area.

Add together the pipe areas required for the various rooms in the house and select a furnace of equal (or larger) lead pipe capacity as listed in Table No. 1. The return air duct or ducts should equal in capacity, the total area of the leaedr pipes, but if the return ducts are long the duct capacity should be increased from 10% to 20%. The air should not enter casing higher than 14 inches. If more than one dcut is used a partition should be put between ducts in casing, reaching as high as the top of boot or shoe in casing. Set the furnace so leader pipes will be nearly equal in length, giving them not less than one inch of rise per foot of pipe. No pipe should be over fifteen feet long, counting each elbow equal to five feet of pipe. No pipe should be less than 8-inch diameter.

TABLE NO. 2

AREA OF LEADER PIPES IN SQUARE INCHES FOR FIRST OR SECOND FLOOR ROOMS, CALCULATED IN ACCORDANCE WITH THE STANDARD CODE

Assumption:—Nine-foot Ceiling, ⅙ Wall Area Glass and 70 Degrees at Zero. Add 1½% for Each Degree Below Zero. Add for Long or Crooked Pipes and for Extra Glass.

Width of Room		Length of Room — Assumption, 9′ High, 1/6 Glass — South Exposure																	
		12′			13′			14′			15′			16′			18′		
		Walls			Walls			Walls			Walls			Walls			Walls		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
10	2	26	41	56	29	43	58	30	45	60	33	48	63	35	50	65	39	54	69
			1080			1170			1260			1350			1440			1620	
	1	39	62	84	43	64	87	46	68	91	49	71	94	52	75	97	59	81	104
11	2	27	43	60	29	46	62	31	48	64	34	50	67	36	52	69	40	54	73
			1188			1287			1386			1485			1584			1782	
	1	40	65	90	43	68	93	47	69	96	50	75	100	54	79	103	61	85	110
12	2	28	46	64	30	48	65	35	50	70	36	53	71	37	55	73	42	60	77
			1296			1404			1512			1620			1728			1944	
	1	42	68	95	45	71	98	50	72	103	52	80	107	55	82	109	62	89	116
13	2				30	50	70	33	52	72	36	55	75	37	57	79	42	62	82
						1521			1638			1755			1852			2106	
	1				45	75	104	50	79	108	54	83	113	57	86	116	64	93	122
14	2							34	55	76	37	58	79	38	60	81	44	65	86
									1764			1890			2016			2268	
	1							51	83	114	55	86	118	58	90	122	66	97	126
15	2										43	60	82	40	62	85	46	68	91
												2025			2160			2430	
	1										56	88	123	60	94	128	69	102	136
16	2	This is for South Exposure. Nothing has been added for ceiling loss or for windage.												41	66	90	48	67	93
															2304			2592	
	1													62	99	135	70	106	140

TABLE NO 3

Pipe Areas and Register Sizes

Diameter of Pipe in Inches	Area of Pipe in Sq. In.	Size of Register
8	50	8x10
9	63	9x12
10	78	10x12
12	113	12x14
14	154	14x16
16	201	16x20
18	254	20x20
20	314	20x26
22	380	24x24
24	452	27x27
26	531	28x30
28	616	30x30
30	707	30x36

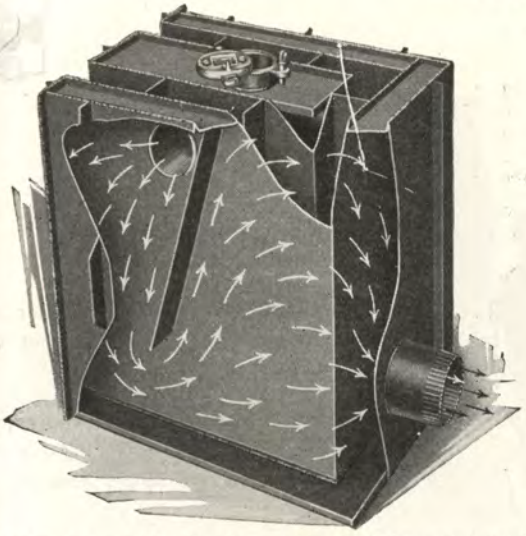
TABLE NO. 4

Size of Rectangular Return Air Ducts.

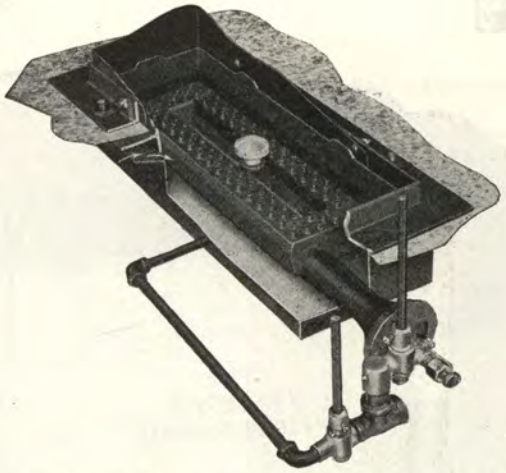
Note—For net carrying capacity deduct 10% from the gross area.

Gross Area Sq. In.	Dimensions in Inches	Gross Area Sq. In.	Dimensions in Inches
120	10x12	256	16x16
140	10x14	320	16x20
160	10x16	384	16x24
144	12x12	480	16x30
168	12x14	576	16x36
192	12x16	704	16x44
216	12x18	432	18x24
264	12x22	540	18x30
288	12x24	684	18x38
360	12x30	400	20x20
432	12x36	480	20x24
196	14x14	660	20x30
224	14x16	680	20x34
252	14x18	800	20x40
280	14x20	576	24x24
336	14x24	720	24x30
420	14x30	864	24x36

GAS FLOOR FURNACE
SECURITY



Cutaway view of the heating unit. The flueways are baffled to equally distribute the heated vapor over the entire body. Made of Armco rust-resisting iron and welded throughout.



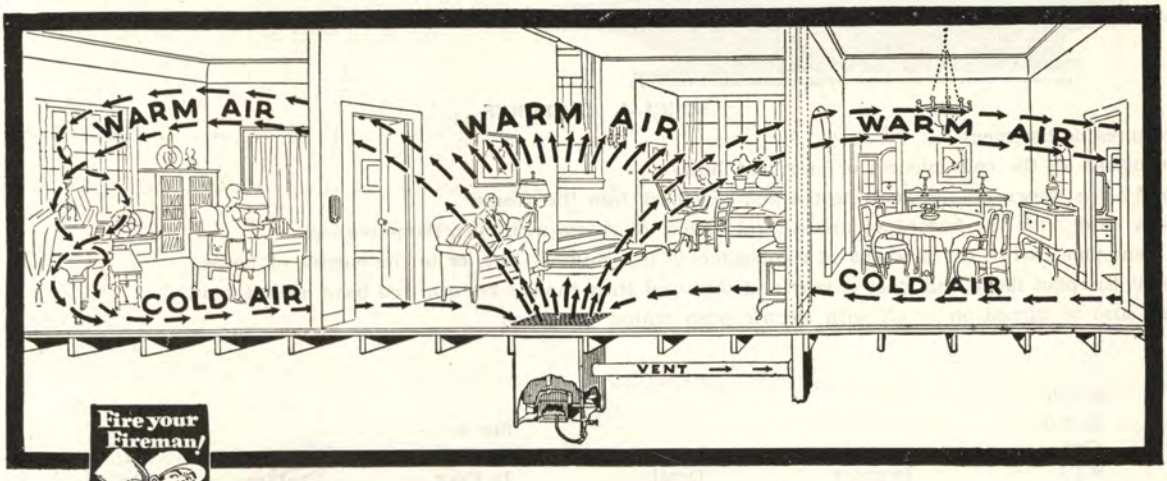
Above illustration shows the burner construction. The pilot flame is so protected that it cannot be extinguished by a draft of air.

JUST TURN ON THE GAS

YES. You can heat your home with gas without purchasing expensive heating equipment; in fact this SECURITY FLOOR FURNACE IS THE MOST efficient gas heating appliance money can buy. Efficiency means smaller gas bills.

ELIMINATES DIRT AND DRUDGERY

NO EARLY MORNING FIRE TENDING



Above illustration shows how the SECURITY FLOOR FURNACE creates an air circulation throughout the entire home. Eliminates dirt and drudgery. No early morning fire tending—just turn on the gas. Can be made automatic with thermostatic control if desired.

IDEAL FOR HEALTH, COMFORT AND ECONOMY.

FLOOR FURNACE

SECURITY

MADE IN TWO SIZES

A very efficient and desirable unit for heating small cottages and homes without basements.

Can be used as a separate heating unit in the larger homes to keep main heating plant out of service during the milder weather.

SPECIAL FEATURES

Requires no basement.
Furnishes all the conveniences of basement heat.
Cold air is drawn off the floor, heated and sent back into the rooms.
Does away with the hazard of unhealthful effects of stoves with open flame burners.
A vent pipe carries the products of combustion to the chimney flue, or to the outside of house.
Light the pilot flame only once a year and then just turn the gas key and you have instant heat.
Can also be turned on or off with electric push button if desired.

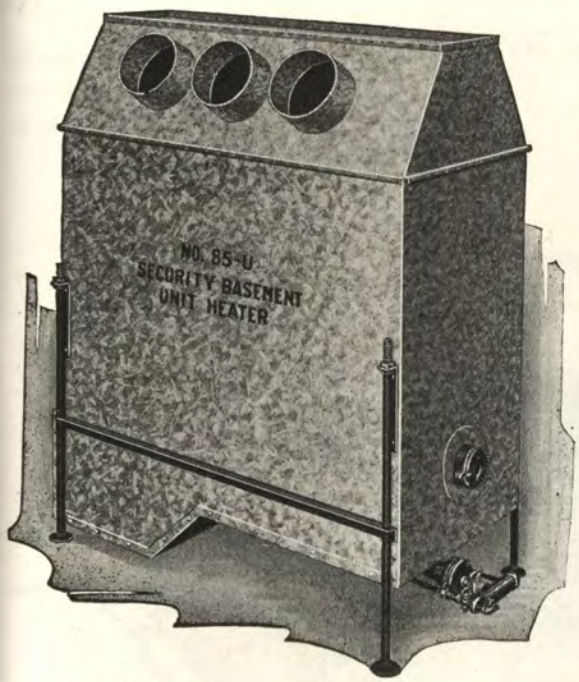
	Hourly In Put Cap. B.T.U.	Register	Depth	Size to Cut Hole In Floor	Vent ins.	Wt. Lbs.	Each
No. 10	25,000	24⅛x22⅜	27½	22¾x21	3	135	$50.00
No. 20	35,000	24⅛x28¾	29½	22¾x27½	4	170	70.00
No. 50	50,000	28 x33½	30	26½x32¼	5	258	90.00

For Automatic Thermostatic Control, consisting of No. 40 Thermostatic (Minn.-Hon.) and ¾-inch Magnetic Valve—Add to list $61.00

IDEAL FOR HEALTH, COMFORT AND ECONOMY.

BASEMENT UNIT HEATER

SECURITY



WITH OR WITHOUT ELECTRIC FAN ATTACHMENT

This gas furnace can be placed anywhere in the basement convenient to the chimney flue, either standing on the floor or suspended from the floor joist. Like the usual type of warm air furnace, the warm air collars may be placed in the top, the sides or the ends. A single unit may be used for several rooms and a double unit may be sufficient to heat the entire home. Where two units are required they can be placed together back to back, or in convenient locations in different parts of the basement, thereby reducing the length of the warm air runs.

ELECTRIC FAN

The electric fan attachment increases the heating capacity from 15 to 20%. The fan can be placed inside of cold air return pipe. By using the fan a greater number of cubic feet of air is made to pass over the heating surface. The fan also makes it possible to reach more distant rooms.

AUTOMATIC HEAT

These heaters can be furnished with automatic thermostatic control. The room thermostat can be placed on the wall of first, second or third floor. When the thermostat calls for heat, the solnoid magnetic gas valve opens and at the same time the fan starts. The gas is ignited from a gas pilot.

SUMMER COOLING

When the electric fan attachment is used, during the hot sultry midsummer nights the cooler air from the basement is drawn out of the basement and conducted through the warm air pipes into the sleeping rooms.

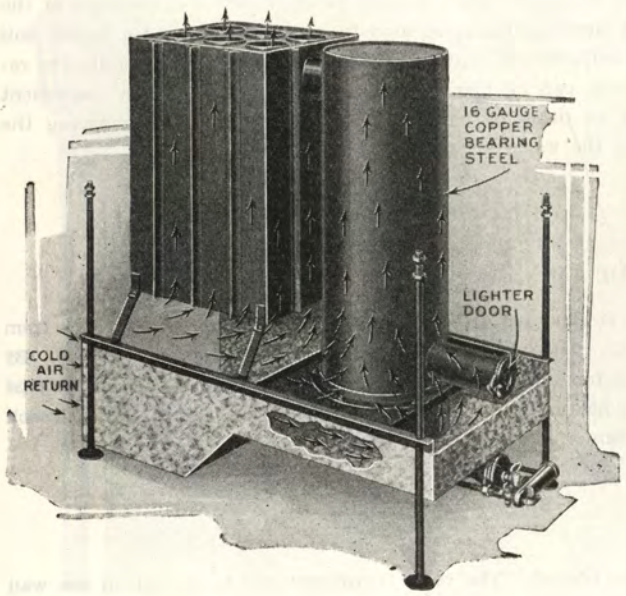
CONSTRUCTION

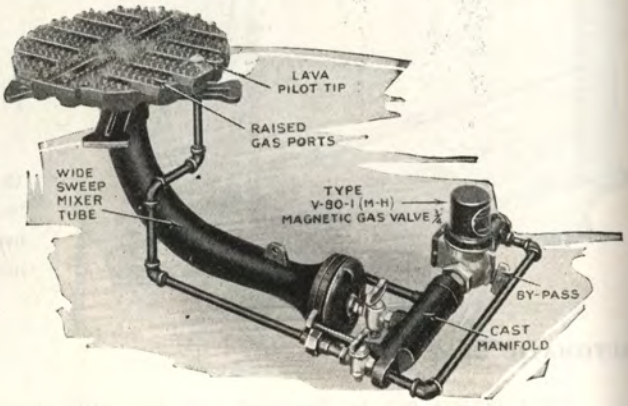
The heating unit of the No. 32-55U is a gas tight welded drum ten inches in diameter and is Number 16-gauge copper bearing metal. The radiator is welded gas tight and is of sufficient capacity to extract the available heat from the products of combustion. It is equipped with an eight inch cast iron drilled round burner, and is furnished with a ten inch electric fan, if desired. The 26-gauge galvanized casing has a spaced lining which prevents undue loss of heat in basement. The legs (or hangers) are made of one-half inch pipe and are adjustable as to length. The Number 32-35U is made in similar manner using a seven inch drum, six inch burner, and a ten inch fan is furnished if desired.

BASEMENT UNIT HEATER

SECURITY

WITH OR WITHOUT ELECTRIC FAN ATTACHMENT





Number	Input Max. Cap. B. t. u. (less fan)	Output at Canopy B. t. u.	Sq. In. Warm Air Pipe Capacity Stand. Code	Approx. Heating Capacity Cu. Ft.	Casing Size	Height	List Price Manual Control (less fan)	Shipping Weight
32-35U	35,000	26,250	135	2,000—3,000	14x31	36	$45.00	150 lbs.
32-55U	55,000	41,250	200	4,000—6,000	16x43½	36	60.00	220 lbs.
32-85U	85,000	63,750	350	6,000—8,000	24x28	60	80.00	260 lbs.

For 10-inch electric fan, add to list **$20.00**

For 192 Mercury switch room thermostat, add to list **24.00**
(2-wire line voltage 110-V A. C., 60 cy.)

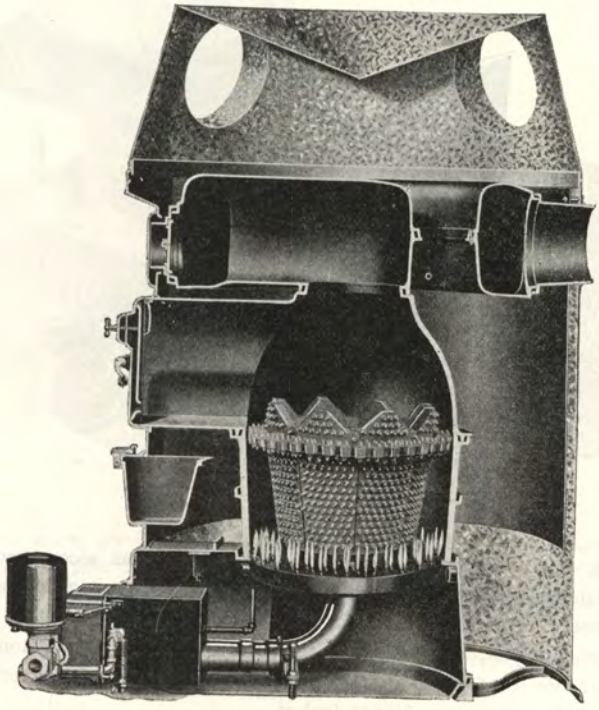
For ¾-inch V80-1 M-H Valve 20-V 60 cy. including converter, add to list **38.00**

NOTE—When electric fan is used above capacities may be increased from 15 to 20%.

CONVERSION GAS BURNER

STERLING

The automatic electric motor driven gas valve and room thermostat are the latest achievements of the nationally known Minneapolis Honeywell Regulator Company who have made a specialty of temperature controls for many years. The new and patented type of refractory used makes the use of gas almost as cheap as coal fuel. When you purchase a Sterling gas burner you may be sure you are getting the best money can buy.



Install a Sterling. "Fire your fireman." Get rid of that dirty coal bin and coal shovel. This wonderful burner will automatically furnish just the amount of heat needed. No more. No less.

The Kind of Refractories Used on the Sterling Gas Burner is Why The Gas Bills Are Low.

The purpose of the band formed by grate-like pieces that slip through a triangular shaped hole near top of each refractory is to enlarge the combustion space, to greatly increase area of radiating surface, to increase the temperature of the combustion zone, to more evenly distribute the heated vapors around the entire circumference of the heater, and to hold the highest temperature created by combustion low down in the furnace, all of which tends to reduce the quantity of gas consumed.

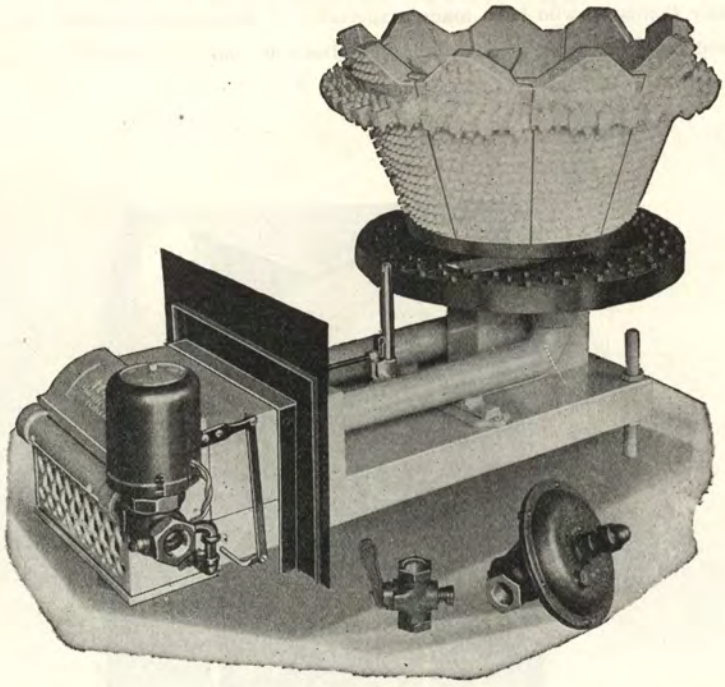
Automatic gas heat puts comfort in the home. Gas heat is clean heat and it is as quick as it is clean. The Sterling gas burner is a safe burner. The gas cocks and all adjustments are contained in a cast iron box the cover of which is screwed down.

STERLING CONVERSION GAS BURNERS

SERIES W

A STERLING IS BEST BECAUSE IT IS BUILT TO SAVE GAS

There is a size for every kind of heating plant. No new furnace is required.



SERIES W

For round shaped boilers and warm air furnaces. Made in five sizes. Has secondary air control. Burner head is two halves to permit installation through the feed door. Extra large mixer tubes having venturi-shaped throat. Has Johnson-jet gas cocks. Collar is furnished to close ash pit door opening. The purpose of the refractory band at top of refractory stakes is to better distribute the products of combustion, to increase the temperature of the combustion zone, and to convert the greatest possible percent of the heat liberated into the form of radiant heat at the fire box section of the heating plant. Concealed gas cocks and air mixers. Size of steel box at ash door 7¼x12 inches.

	Diameter of Burner Head	Maximum Capacity, B. t. u.	List Price			For Grate Sizes	Range of Diameter Ref'tories at Band	Number of Stakes Furnished	Distance Center of Burner to Back of Cast Box	Shipping Weight, Pounds
			Type 1	Type 2	Type 3					
W-116	16″	200,000	$52.00			17 to 20″	*21 to 24″	8	23⅛	175
W-118	18″	250,000	59.00			20 to 23″	*21 to 24″	8	24⅛	185
W-120	20″	300,000	64.00			23 to 26″	23 to 26″	9	25⅛	200
W-122	22″	350,000	72.00			26 to 28″	**25 to 29″	11	26⅛	225
W-124	24″	400,000	76.00			28 to 30″	**28 to 32″	12	27⅛	250

Type 1—As shown, with plain pilot, less pressure regulator, less main line A. G. A. approved gas cock.

Type 2—Same as Type 1 but with thermostat (M-H 4010) and electric gas valve (M-H V-15-1-1-inch).

Type 3—Same as Type 2 but with automatic pilot, pressure regulator (1-inch), A.G.A. approved main line-cut-off cock (1-inch).

*To reach 20-inch diameter either omit band or one stake.

**To reach smallest diameter omit one stake.

SECURITY GAS BURNER

SERIES C-2

TWO MIXING TUBES AND DIVIDED BURNER HEAD

For round shaped boilers and warm air furnaces. Made in five sizes for grate diameters from 17 inches to 30 inches. Burner head is made in two halves to permit installation through the feed door. Extra large tubes with venturi-shaped mixer throat. Distance from front to burner, and height of burner head, are adjustable by using two-inch nipples of different length. Has Johnson-jet cocks with extra long mixer pins.

Manifold easily removed and is reversible for right or left hand. The refractories are made with lapped joints.

SERIES C-2

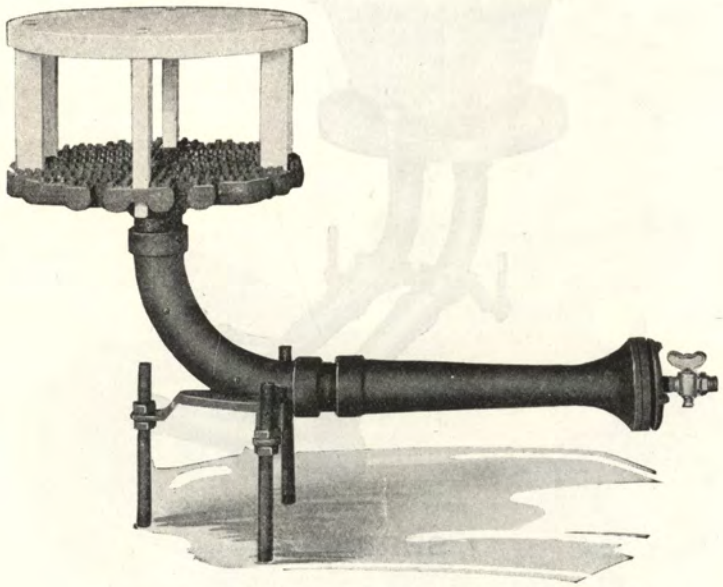
Number	Size	Max. Cap. B. t. u.	List Prices			For Grate Sizes From	Range of Diameter of Rrefactories at Top	Shipping Weight
			Type 1	Type 2	Type 3			
C2-214	14″	150,000	$36.00	.....	.....	15″ to 17″	18″ to 20″	140
C2-216	16″	200,000	42.00	.....	.....	17″ to 20″	21″ to 23″	155
C2-218	18″	250,000	49.00	.....	.....	20″ to 23″	21″ to 23″	165
C2-220	20″	300,000	54.00	.....	.....	23″ to 26″	23″ to 25″	180
C2-222	22″	350,000	62.00	.....	.....	26″ to 28″	25″ to 27″	205
C2-224	24″	400,000	66.00	.....	.....	28″ to 30″	25″ to 30″	230

Type 1—With pilot line and without thermostatic control.
Type 2—With pilot line—V15-1 electric gas valve (1-inch) and 4010 plain Thermostat.
Type 3—Same as Type 2 except has 7710 clock thermostat.

Less Pilot line on Type 1 ..... Deduct from List $ 4.00
For Automatic Pilot and pilot line ..... Add to list 20.00
Less fuel band deduct from list 2.50

SECURITY GAS BURNER

SERIES D



NO. D-316

Series D is the same as SERIES C except it has a differently constructed burner head and refractory as shown in cut. Fills the demand for a low priced but highly efficient burner. Ideal for ovens, small heaters and furnaces with low domes.

SERIES D

Number	Max. Cap. B. T. U.	List Price				For Grate Sizes From	Shipping Weight
		Type 1	Type 2	Type 3	Type 4		
D-314	150,000	$21.00	.....	.....	$97.00	15″ to 17″	100
D-316	175,000	25.00	.....	.....	101.00	17″ to 20″	110
D-318	200,000	29.00	.....	.....	105.00	20″ to 22″	120

Type 1—Without Pilot line and without thermostatic control.

Type 2—With Pilot line—¾-inch series 20 gas valve and 40 thermostat.

Type 3—With Pilot line—¾-inch series 20 gas valve and 77 clock thermostat.

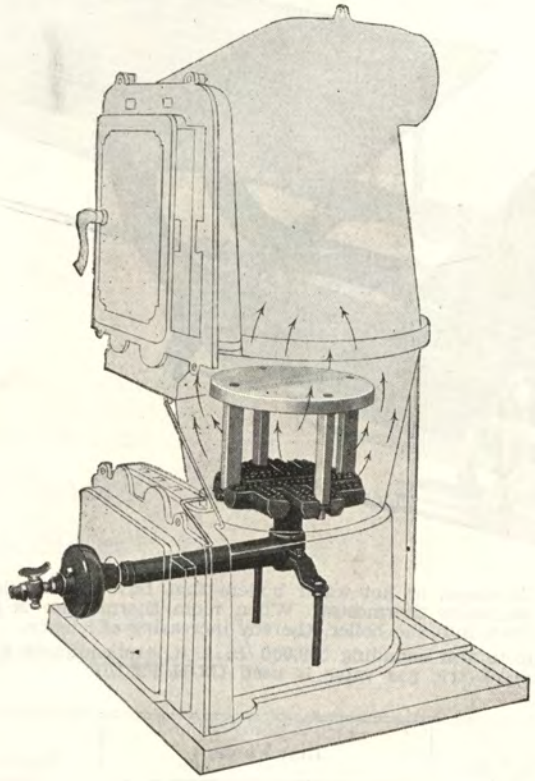
Type 4—With Pilot line—V15-1 electric gas valve (1-inch) and 4010 thermostat.

For Pilot Line on Type 1 add to list $4.00

Less refractories deduct from list 4.00

SECURITY GAS BURNER

SERIES R



A correctly designed conversion gas burner for round type boilers, warm air furnaces, and heating stoves.

Has heavy fire clay refractories above burner head which deflects the rays of radiant heat to the walls of the combustion chamber. The construction of these refractories is such that the temperature of the space immediately above the burner head is very great, which insures the highest possible efficiency of combustion.

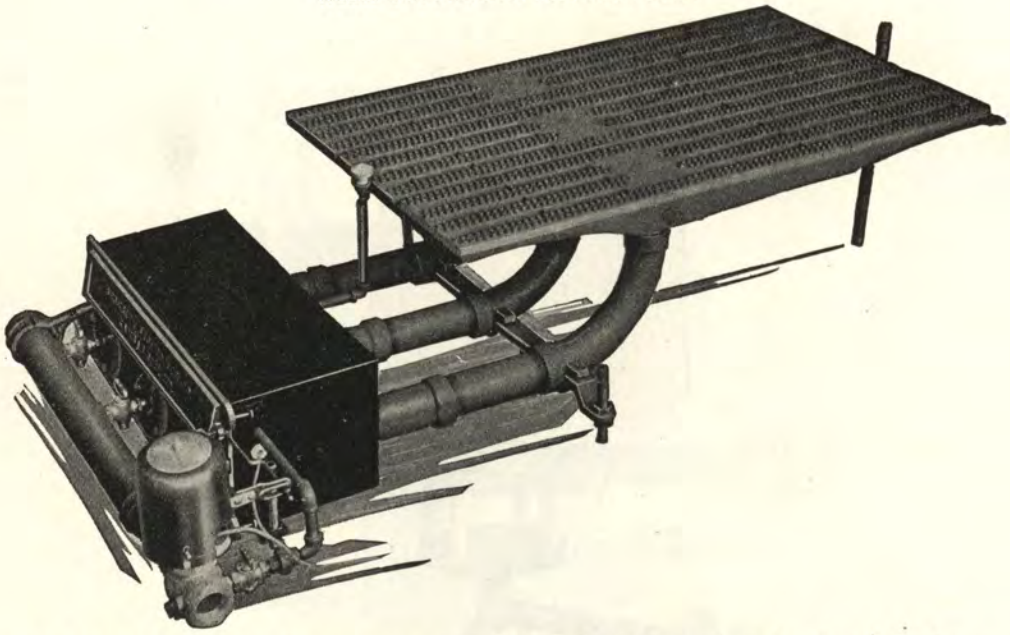
Can be installed with Automatic Thermostatic Control if desired

Number	Style	Size	Maximum Capacity B. T. U.	List Price Less Refractories	List Price With Refractories Type 1	Weight	Automatic Control
R-6	Round	6″	40,000	$ 4.00	None	8	
R-8	Round	8″	75,000	10.00	$12.00	15	Any of these R Series burners can be made automatic by using No. 40 (Minn-Hon.) room thermostat and a ¾″ magnetic gas valve, for which add to list $61.00.
R-10	Round	10″	90,000	12.00	14.00	25	
R-12	Round	12″	100,000	14.75	16.00	40	
R-14	Round	14″	125,000	15.00	18.00	50	
R-16	Round	16″	150,000	18.00	22.00	60	
R-18	Round	18″	175,000	23.50	28.50	70	
R-013	Oval	7x13″	90,000	14.75	16.00	35	
R-016	Oval	8½x15½″	100,000	15.00	18.00	40	

SECURITY CONVERSION GAS BURNER

SERIES G

WITH SECONDARY AIR CONTROL



This burner is designed for use in steam or hot water boilers that have rectangular shaped fire boxes. The secondary air damper is controlled by the electric gas valve thermostat. When room thermostate is satisfied the damper is automatically closed which prevents cold air being drawn into the boiler, thereby increasing efficiency.

Burners having an input rating up to and including 500,000 B. t. u. are equipped with 1-inch electric gas valve (M-H V15-1). For greater capacities 1½-inch electric gas valve is used (M-H F2210).

	Number	Outside Dimensions of Burner Head	Max. Cap. B. T. U.	List Price		Number Tubes	Distance Between Outside Tube Centers	Shipping Weight Pounds
				Type 1	Type 2			
Without Sec. Air Control	G 1	5x22	135,000	$19.30	$91.30	1		40
	G 2	5x28	175,000	20.90	92.90	1		50
	G 3	7x14	125,000	18.20	90.20	1		35
	G 4	7x22	200,000	22.20	94.20	1		45
	G 5	7x28	250,000	23.70	95.70	1		50
	G 6	7x40	360,000	30.90	102.90	1		80
With Secondary Air Control Box	G 7	11x22	270,000	$40.70	$112.70	2	6 "	90
	G 8	11x28	350,000	43.90	115.90	2	6 "	95
	G 9	15x14	250,000	38.40	110.40	2	7¾"	85
	G 10	15x22	400,000	46.00	118.00	2	7¾"	100
	G 11	15x28	500,000	49.50	121.50	2	7¾"	110
	G 12	15x40	720,000	63.90	135.90	2	7¾"	160
	G 13	17x22	405,000	57.40	129.40	3	12 "	135
	G 14	17x28	525,000	62.20	134.20	3	12 "	150
	G 15	23x14	375,000	53.70	125.70	3	15½"	125
	G 16	23x22	600,000	65.10	137.10	3	15½"	150
	G 17	23x28	750,000	70.60	142.60	3	15½"	175
	G 18	23x40	1,080,000	92.20	183.20	3	15½"	240

Type 1—As shown, with pilot line but less Electric gas valve.
Type 2—With Pilot line—Electric gas valve (V15-1-1 inch), and Thermostat (M-H 4010).

Less pilot line (Type 1) deduct from list	$ 4.00
For Electric clock thermostat add to list	56.00
For Type H-10 pressuretrol (steam boiler limiting device). List	26.00
For Type D-10 Vaporstat (vapor boiler limiting device). List	26.00
For Type B-6510 Aquastat (water boiler limiting device). List	26.00
For Type F-10 Surface Aquastat, Mercury Switch Type. List	24.00
For Automatic Pilot. List	20.00

LIQUID FUEL SECTION

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RANGE OIL BURNERS

Of course every housewife yearns for the relief from kitchen drudgery offered by burning oil. No one believes for a moment that she enjoys martydom to the kindling pile, the coal hod, the ash can and the stove polish. With a **Moderne** DeLuxe Burner installed in your range, you will experience a new exhiliration in the preparation of temptingly delicious meals, without any cooking failures due to a balky stove. You will never again know the utter fatigue and downright exhaustion of the past, because the **Moderne** DeLuxe delivers a silent, blue intense flame under the delicate and positive control of a simple valve. No long waiting for sufficient fire—the **Moderne** DeLuxe is quickly lighted or put out—that means fuel economy. A generous flow of piping hot water is available as you require it.

DE LUXE MODERNE RANGE BURNERS

Your permanent satisfaction with the **Moderne** DeLuxe is assured, because it thoroughly conforms with the basic requirements which dictate the proper selection of any quality product. Examine the following data critically and you will surely be convinced that a **Moderne** DeLuxe measures up to the standard of excellence that you expect to find in equipment for your home.

1. Correct mechanical design. Our **Moderne** DeLuxe burner is an achievement in design which was developed by practical engineers and based upon sound foundamentals.

2. It is only natural to expect precise, sound and thorough workmanship in the **Moderne** DeLuxe burners because the men in our plant have lived with just this kind of work, daily, for years back.

3. The materials that are used in the **Moderne** DeLuxe are only accepted after exhaustive and exacting tests. Our guaranteed castings are made in our own foundries under scientific procedures. The burner base is specially heat treated by our own unique process which eliminates the danger of crystalization and removes the strains, thereby eliminating all possibility of warping in use—all of which means continuous satisfactory service. The perforated shells, or superheaters, are designed to withstand the most intense heat and last for years without replacement. Buy a **Moderne** DeLuxe Range Oil Burner in confidence—enjoy it's years of glorious performance.

4. The **Moderne** DeLuxe Range Burner is truly modern in appearance as well as in mechanical detail. This equipment goes beyond being merely utilitarian; it actually adds materially to the modern home. There are no rough edges or protuberances to catch dust. It is streamlined to present a pleasingly sleek contour; it almost seams to say, "Behold me. I am an aristocrat and worthy of my place in the homes of the discriminating." You can't help but get a thrill of pride in owning a **Moderne** DeLuxe burner. Its gleaming chromium finish and rugged, substantial character is winning admirers and friends, north, east, south and west.

THE GUARANTEE

The **Moderne** DeLuxe burner is factory guaranteed for five years, and a certificate of guarantee is furnished with every burner. This guarantee is backed by a long established organization of recognized reputation and unquestioned financial standing. This desirable security provides you with the adequate protection that should be demanded when you buy a range oil burner.

MODERNE DEALERS

Moderne Burner dealers are never casually appointed. Before a dealer franchise is signed, a prospective dealer must furnish satisfactory evidence of a capacity and sincerity that measures up to the high standards we have established. This is a rigid and inflexible policy that assures you of permanent enjoyment from your burner.

No. D007—7-inch Double Range Burner—2 gallon bottle; average capacity 4 gal. per 24 hours; burner dimensions 6¾ x14½ inches. Weight, each 45 lbs. Each $57.00

No. D09—9-inch Single Burner—2 gallon bottle; average capacity 4½ gallons per 24 hours; burner dimensions 8¾ x8¾ inches. Weight, each 45 lbs. Each $57.00

No. D011—11-inch Single Burner. Capacity 6 gallons in 24 hours; burner dimensions 10½x10½ inches. Weight each, 50 lbs. Each $65.00

Stocked in Chrome Finish only. Can also be secured from factory in Gray, Ivory, Green or Black Enamel.

When you want an orphan, simply adopt one—don't buy one. When the fanufacturer of any mechanical equipment ceases business, that product becomes an orphan. The buyer has no one to turn to for parts; no one to stand responsible for guarantees; no one to provide service. The first assurance to demand is that you will not become the unhappy owner of an orphan oil burner. No matter how good the burner looks, no matter how rosy it is painted before the sale your investment is lost if the company that made the burner cannot give evidence of its capacity to remain in business.

The **Moderne** Oil Burner is manufactured by the Connecticut Foundry Company. This concern has ben in continuous operation over a long period of years. It is the largest foundry company in New England. The burner is actually produced and assembled in our own plant. The company is well known for fair and square conduct of its every business undertaking.

In view of these facts you can invest in a **Moderne** burner with every assurance of safety, knowing that this product is backed by a well established, responsible manufacturer.

RANGE OIL BURNERS

REGULAR MODERNE RANGE BURNERS

The **Moderne** way of cooking is the oil way. Today this industry is one of the busiest in the country, as housewives everywhere are acclaiming the ease, comfort and leisure time that oil burning makes possible.

The **Moderne** burner is manufactured with the utmost care, along carefully developed scientific designs. It embodies many features, the worth of which can only be appreciated after years of trouble-free service.

Buy the **Moderne**! The reputation of the company assures you of satisfaction and years of continual service. The **Moderne** means better cooking, freedom from dirt, ashes, coal carrying, grate shaking, building fires, etc. The **Moderne** means quick, easily lighted and easily regulated heat. The **Moderne** way means bring the kitchen or parlor stove up to date with better cooking and living.

Moderne is sold at a uniform price and not at so-called bargain sale prices.

We offer the finest material, the most perfect burner at the lowest figure commensurate with best quality and performance.

Guaranteed castings are all made under careful procedures in our own foundries, which have been turning out high-grade castings, including oil burners, for years.

The **Moderne** Burner is specially heat treated. The burner base is of the best grade material, together with our special heat treating, which assures you of uninterrupted service.

Heat treating through our special process eliminates crystalization, removes strain which prevents warping in use, all of which means continuous satisfactory performance.

The perforated shells or superheaters are designed and made to withstand the most intense heat, lasting for years without replacement.

7-inch Double Range Burners—2 gal. bottle; average capacity gal. in 24 hours; burner dimensions 6¾x14½ inches.
No. R007GY—Gray Enamel Finish. Wt., each 40 pounds. Each $44.00

No. R007GN—Green Enamel Finish. Weight, each, 40 pounds. Each $44.00

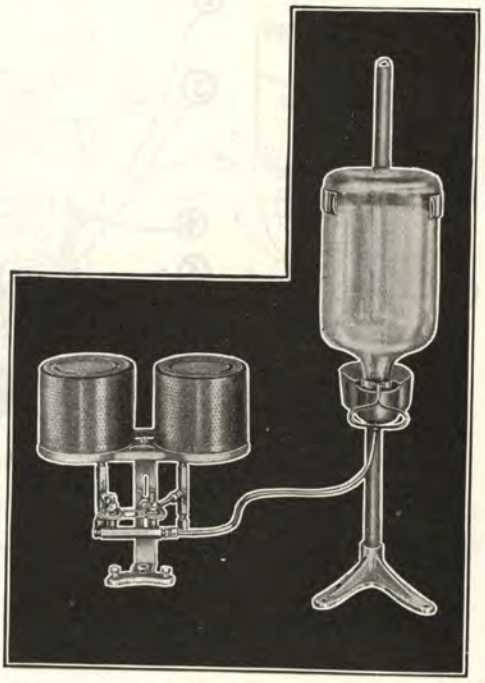
No. R007IV—Ivory Enamel Finish. Weight, each 40 pounds. Each $44.00

7-inch Single Burners—2 gal. bottle; average capacity 2½ gallons in 24 hours; burner dimensions 6¾x6¾ inches.
No. R07NI—Nickel Finish. Wt., each 40 lbs. Each $40.00

9-inch Single Burner. 2 gal. bottle; average capacity 4½ gal. in 24 hours; burner dimensions 8¾x8¾ inches.
No. R09NI—Nickel finish. Wt., 40 lbs. Each $44.00
No. R09GY—Gray Enamel Finish. Wt., 40 lbs. Each .. 44.00

11-inch Single Burners. Average capacity 6 gal. in 24 hours; burner dimensions 10½x10½ inches.
No. R011NI—Nickel finish. Wt., 45 lbs. Each $52.00
No. R011IV—Ivory Enamel. Wt., 45 lbs. Each 52.00

JUNIOR MODERNE RANGE BURNERS

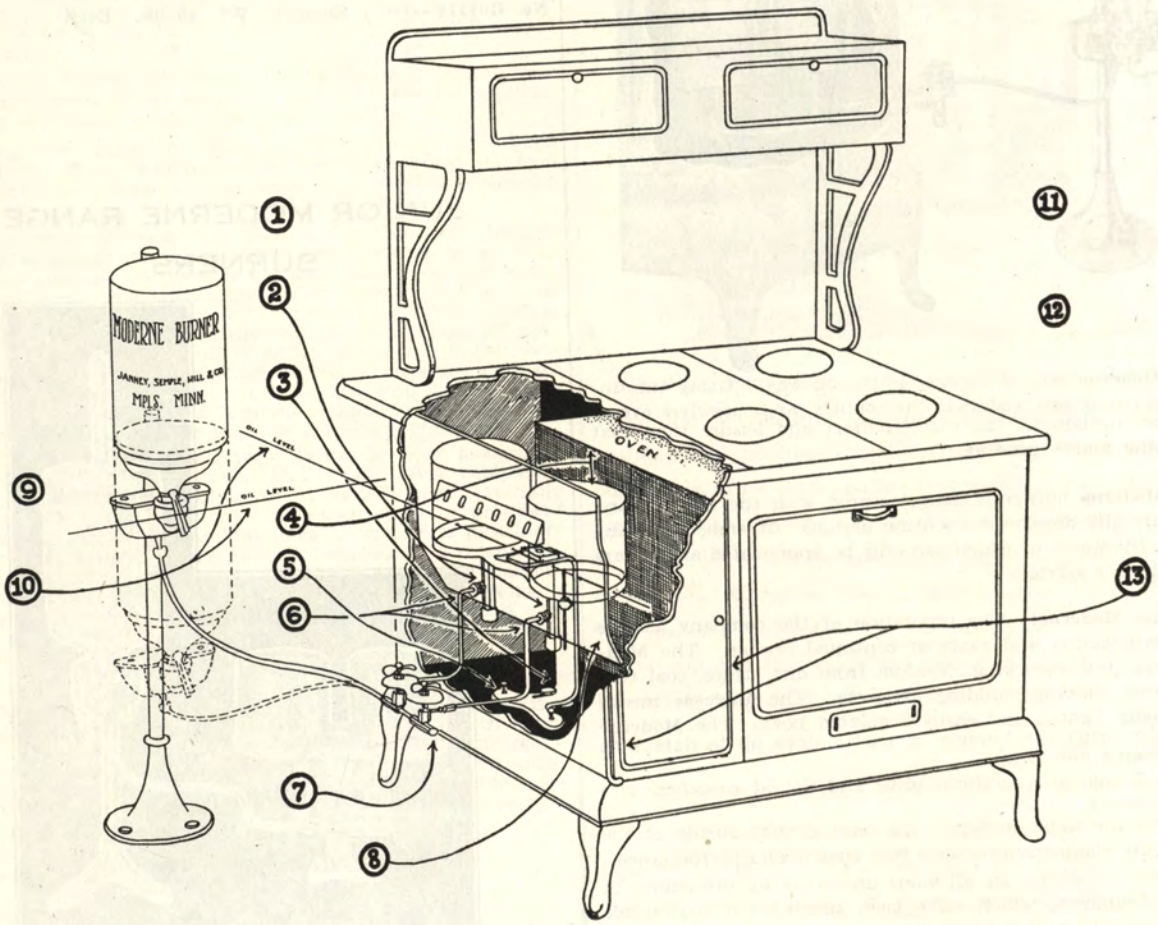


The Junior Moderne is similar in design and construction to the Regular but is put out to meet Competitive prices. The glass tank has no metal cloth protection, the stand is of cheaper design and it is made at minimum cost in every way possible. It will give entirely satisfactory service but is built for service first, with no extras for appearance sake. Finished in nickel.

No. J007—7-inch. Double Range Burner. 2 gallon bottle. Each $30.00

No. J09—9-inch. Single Burner. 2 gallon bottle. Each.. 30.00

No. J011—11-inch Single Burner. 2 gallon bottle. Each.. 43.00


MODERNE BURNER
JANNEY, SEMPLE, HILL & CO.
MPLS. MINN.
OIL LEVEL
OIL LEVEL
OVEN
1
2
3
4
5
6
7
8
9
10
11
12
13

Instructions for Installing Moderne Range Burners.

— 1 —

Important—remove all grates and linings. See that Range is thoroughly clean of ashes, creosote, etc., with exception of layer of ashes at bottom of range below oven, but see that under side of oven bottom is clean.

— 2 —

Assemble base so that carbon legs are toward front of range.

— 3 —

Centrally locate burner assembly in fire box without regard to lid openings in top of range.

— 4 —

Top of shells 1½ inch to 3 inch below top of oven.

— 5 —

Level base by adjusting set screws. Note: This must be done with absolute accuracy or burner will not operate properly.

— 6 —

Drop tubing at this point as illustrated.

— 7 —

Valve low point of installation, installed 6 inches from front of range. Tubing from shells run out to valve through 2¼ inch holes drilled 2½ inches on centers, 1 inch above bottoms of ash pit.

— 8 —

Sheet iron baffle installed so as to deflect all incoming air below base of burner.

— 9 —

Dotted lines indicate position of Oil Bottle before oil level has been determined.

— 10 —

After burner assembly has been installed, determine oil level as follows: Fill bottle half full of kerosene, open both valves and slowly raise bottle from low point of stand until oil in base just covers small cast lugs in base, then tighten set screw. Wait three or four minutes for oil to reach its proper oil level, then check depth of oil in base and see that it does not exceed ¼ inch.

— 11 —

Install solid damper in smoke pipe.

— 12 —

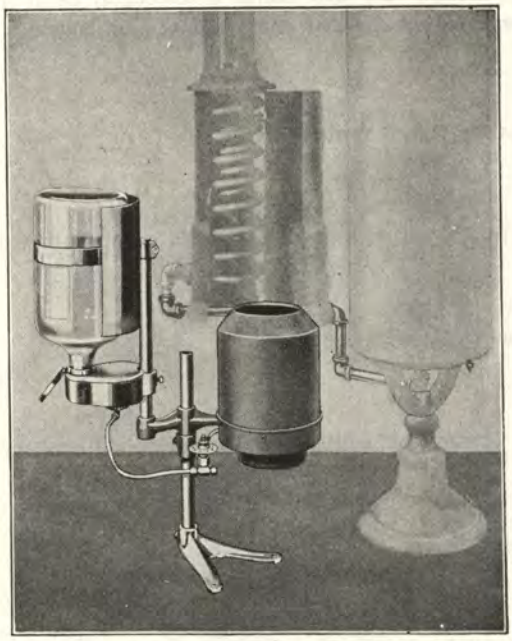
Installation of draft stabilizer advisable in all cases, but absolutely necessary only when an extreme draft condition exists, such as back draft or excessive draft.

— 13 —

Important—Cement up pouch feed and all cracks in fire box with furnace cement so that the only air that can be admitted for combustion must come through baffled opening.

HOT WATER HEATERS

MODERNE



The illustration shows the MODERNE Hot Water heater ready to light. Notice that the heating unit is swung away from beneath the coil on a swivel so that lighting is simplified. In this position the heater can also be used as an auxiliary cooking burner. Swung back into place, with the door closed, it heats the water coils quickly and efficiently.

Baths, dishes, laundering, cleaning, and many other domestic activities create a constant demand for abundant hot water. A coal fire can only provide a limited quantity of hot water and means long waits between each time it is used until more is heated. What family hasn't found this most annoying. Where gas is available, there is greater convenience, but the expense often proves prohibitive. A MODERNE Hot Water Oil Burning Unit, hooked right to your hot water coil, provides a constant flow of piping hot water at a cost below anything you've ever experienced before. Think of it—thirty gallons of steaming water at a cost of less than two cents for fuel. This truly is "bottled heat.". The Unit is compactly arranged so that the entire assembly is securely mounted on a single floor base.

This MODERNE Hot Water Unit is sold complete with the water coil ready to be attached to your boiler or with the heating unit alone, for connection with the coil you're now using. Your dealer will install the MODERNE Unit without interrupting household activities. He simply removes the present attachment and slips your new MODERNE into its place, making the necessary pipe connections.

The MODERNE Hot Water Unit is constructed throughout of the finest materials obtainable. It has the proven MODERNE Junior burner base and carries the Absolute guarantee of The Connecticut Foundry Company. In this Unit, we present an appliance of demonstrated practicability.

No. 6—Consists of burner, Oil Tank and Stand—No copper coils. Each $40.00

No. 66—Complete Water Heater. Consists of Copper Coil Tank Heater, Burner, Oil Tank and Stand. (No range Boiler). Each $54.00

MODERNE CONVERSION UNIT

Where Replacing Other Types of Heaters Under Coil Unit

1. Remove old type entirely. If gas is being replaced, be sure Gas pipe is capped or plugged tightly to prevent leakage.
2. Clean stove pipe to chimney, and clean with brush any deposits of soot on copper coil and inside of case.
3. Remove bolt lugs (usualy 3) on bottom of coil casing with hack saw and file.
4. Place Moderne unit directly under coil heater and high enough so that tapered iron shell touches bottom rim. Tighten set screw on small collar to hold burner at this height. Now open door of coil casing and swing Burner Unit out. When position is correct, screw floor base to floor.
5. Now remove tapered iron shell and take off bottom bowl casting by removing two screws. Level burner with spirit level by means of three adjusting screws. Place bottle reservoir on stand pipe as low as it will go. Place partly filled bottle in place and raise reservoir very slowly, until oil is just even with inside bottom of oil chamber in burner. Then raise bottle reservoir by very slow stages to bring depth of oil exactly 1/8 inch. Tighten all set screws.
6. Attach copper tubing to burner and reservoir, keeping valve at lowest point in oil line. When completed, tubing must have slight pitch downward from burner to valve and a slight pitch downward from reservoir to valve.
7. Place wicks in burner base with metal clips down. Assemble burner, placing perforated cylinders with large holes on top.
8. To meet some city ordinances, it is necessary to install a pressure relief valve at the top of tank if there is not already one on the line, and we recommend that this be done in all cases as a safety measure to avoid possible damage if burner is forgotten and left at high flame.

HOT WATER HEATERS

MODERNE CLAIMS SAFETY, DURABILITY, AND PERFORMANCE

SAFETY—Because it has engineered in it the requirements of the National Board of Underwriters.

DURABILITY—Because in our manufacturing, nothing but the best materials and workmanship are used.

PERFORMANCE—Because by direct comparison, there isno faster starting burner in the field today, and the Combustion is as perfect as can be attained.

CONSTRUCTION—

The Vitally important parts of a Range Oil Burner Unit are the Burner Base, Shells, and Valve. While the other parts must be well made, they are secondary in importance.

BASE—

The Moderne Burner Base is made especially for its purpose. It is cast from special alloy. All castings in cooling develop strains, which in use must eventually be relieved, causing distortion to a greater or lesser degree, depending on its use.

The Moderne Burner Base is heat treated to relieve these strains, so that in use it has been proven that the casting retains its original shape. In this heating process, it is also straightened under pressure, which is important to the installation man setting up the burner and to its operation in the stove.

It is scientifically designed to generate gas quickly, and to consume practically all gases with a minimum of carbon deposit. It has practically 50% more generating chamber than most other types.

Moderne Bases, with the exception of Juniors, are Porcelain Enameled under 1600 degrees Fahrenheit, giving an everlasting finish which makes Moderne the fastest starting burner, due to its high heat conductivity. This enamel also seals the pores in the metal, giving a glazed surface which resists the adhesion of carbon deposits and makes cleaning a simple operation.

PERFORATED SHELLS—

To the eye, all shells look alike, even to the expert eye, but it is very important that they are made of the proper materials, or they will break down in use after a time.

Moderne Shells are made of a high chromium content, heat-resisting steel. They are designed to deliver the maximum oxygen through the medium of the perforations for proper combustion. They contain the necessary chemical elements to withstand 25% more heat than is generated in the burner. They are made of the proper thickness, and are fitted to each individual burner by hand process.

The combustion covers on the top of the burner are made of the same quality steel as the shells. They are made with small handles so that they can be lifted off the burner to more easily light it.

VALVES:

The requirements of a good valve are that it does not clog, stays leakproof in use, and that it has a wiping seat.

The Moderne Valve is of the needle type, which has been proven the best for all purposes. It has a right hand thread on the valve stem, and between these threads and the packing nut is a left hand threaded gland nut, which prevents the operator from turning the valve to far open, thereby loosening the packing in the stuffing box. This last condition, in other types is very apt to be the cause of bad oil leaks.

The Moderne Valve is constructed entirely of Brass.

The Moderne Burner is designed to do its work without servicing, if operated according to instructions. It has no unnecessary gadgets or features to cause trouble, and is kept as simple as possible and do its proper job.

INSTRUCTIONS FOR INSTALLING OIL BURNER

1. Clean stove thoroughly. Be sure that all ash and soot has been removed from fire box and top and bottom of oven.
2. Remove all fire bricks, grates and grate frame.
3. Drill ⅞ inch hole in center of ash pit.
4. Screw carbon legs in burner base, being careful not to screw too tight.
5. Place pedestal in ash pit and fasten with bolt.
6. Place burner base on top of pedestal. Fasten with bolt. Loosen center pedestal bolt and adjust top of burner base to 7 inches below top of oven.
7. Now make sure that top of burner base is perfectly level. This adjustment should be made with set screws on bottom of pedestal.
8. Facing ash pit, drill two ⅜ inch holes 3 inches apart, about center of left wall of ash pit.
9. Cut one piece of copper tubing about 26 inches long and another piece about 16 inches long.
10. Take brass nuts off carbon legs and slip over ends of copper tubes, following with small brass collars. Then place other ends of copper tubes through holes drilled in ash pit. Now bend copper tubes in proper shape to carbon legs. Place ends of copper tubes in carbon legs, keeping all tubes in round shape, and slide collars up close and then screw on brass nuts tightly to prevent leaking.
11. Repeat operations in the No. 10 to connect copper tubes to valve.
12. Place bottle stand in most convenient place near stove. Screw base to floor.
13. Connect copper tubing to end of valve and bend in proper shape and connect to bottle bowl, which should now be lower than burner base.
14. Fill bottle with oil, screw on bottle cap, and place bottle in bottle bowl.
15. Proper oil level should be ⅞ inches deep in grooves of burner base. To get this level, open valves and slide bottle bowl by easy stages, **very slowly** upward on stand until oil rises just to bottom of oil chamber in burner. Now raise bottle bowl an additional ⅞ inch and tighten with set screw. If above instructions have been followed accurately, there should be an oil level of ⅞ inch in grooves of burner base after five minutes have elapsed.
16. Place wicks in burner base, with metal clips at bottom.
17. Place vaporizing ring in proper position.
18. Place perforated cylinders in proper position with large holes on top. Start with smallest cylinder.
19. Place cover on cylinders. Burner is now ready to operate.

HOT WATER HEATERS

OPERATION AND CARE OF RANGE OIL BURNER

To Light Burner

Open chimney and oven damper.

Open feed valves wide from one to two minutes to obtain proper amount of oil in burner base and allow time for all wicks to become sufficiently soaked with oil. Then close all feed valves and light all wicks with lighter furnished for that purpose.

When flame begins to lower from lack of oil, open valves to number instructed by installation man. Then regulate flame until it burns blue a little above the mantles and does not smoke. Now close chimney and oven dampers. When mantles are glowing red, burner is at its best. Never turn burner down so low that mantles do not glow, or so high that it smokes or burns with a yellow flame. During first half hour after lighting burner, look at flame frequently and adjust if necessary.

If, with chimney dampers closed, the oven does not heat properly, install solid damper in pipe. If this is done damper should be opened a little when retiring or when leaving stove unattended for a long period. In cases of persistant back draft, install an automatic draft regulator in pipe.

Use furnace oil of 38 to 40 degrees Baume Test or kerosene. Never use heavy or dirty oil.

Never close ash pit draft completely.

Be sure there are no other openings in stove allowing drafts to enter as this will cause burner to operate irregularly.

Keep oil strainer in bottle bowl clean.

Be sure valves are entirely closed before lighting hot burner. Then insert lighted taper in outside groove and then open valves to proper burning points. Oil should NEVER be turned into hot burner unless lighted taper is in outside groove.

Water should not be allowed to accumulate in bottle bowl as this will make cleaning of entire system necessary.

To thoroughly clean burner allow all parts to cool. Remove all material above burner base, also wicks. Scrape carbon from grooves and vaporizing chamber with knife or sharp tool. Replace wicks, vaporizing cap, perforated cylinders and top rings and covers, and burner is ready to operate.

Thorough cleaning should not be necessary more than once a month.

Study operation of your burner and adjust valves and drafts to get best results.

ONE LOOK
And your customers will buy

The Sunny Boy presents a clean-cut modernistic appearance. Three burnings of porcelain enamel on ingot enameling iron make this lovely walnut finish absolutely permanent.

Even with the doors closed you enjoy the cheerful glow of the fire. The Sunny Boy cabinet is asbestos lined.

When your customers see the Sunny Boy, you won't have to sell them on its beauty . . . they'll "get" that in their very first glimpse of it.

Special attention is called to the heat-radiating flanges on fire pot and dome, projecting smoke canopy, hot blast feature, heavy angle iron base (not cast iron) and the extra large fire door opening.

The Sunny Boy is just as beautiful when the doors are open as when they are closed. When the doors are open a perfect flood of radiant heat pours out into the room. The ornamental front grille can be raised and latched to facilitate cleaning of the heating unit.

See pages 34 and 35 of this catalog for full information.

STOVES

THE MODERNE SANICO

A new "console" type coal and wood range which is constructed in accordance with regular Sanico standards of super-fine quality and yet is PRICED TO SELL.

AMERICA'S MOST BEAUTIFUL RANGE!

For complete information see pages 8 and 9 of this catalog.

STERNO CANNED HEAT

Here is a can of paste that is like cold cream and is just as safe. All you have to do to use it is to take the lid off the can, touch a match to the paste—and you have a strong, intensely hot flame. For frying, boiling, etc..—heating everything, — anytime, anywhere. No bottle to break and spill its dangerous contents—no wick to insert, trim or fish for when they go to the bottom. Quicker, hotter, easier than gas. No tubes or cumbersome connections. Sterno canned heat is absolutely safe —it can't explode. For automobiling, camping, yachting or excursions.

No. 4006—Weight, 4 lbs. Per dozen.....$1.80

No. 4008—Weight, 7 lbs. Per dozen..... 4.50
One dozen in a display box.

STERNO HEAT IN TUBES

Sterno in Tubes has different uses than Sterno in Cans. Some of these are: Boy and Girl Scout emergency kit. Heat soldering irons. Start camp and home wood fires, heat curling and waving irons. Sterilize medical instruments. Fuel for boys chemestry sets. Heat sealing wax and glue for all household uses. Cleans auto windshields. Prime gasoline lanterns and blow torches. Heat Shaving water. As emergency fuel and many other uses.

Sterno Heat in Tubes—Wt., per dozen — lbs. Per doz...$1.20

Sterno Torch Sets—As illustrated is a movable device developed for the practical application of Sterno in tubes. Wire folding stand with set to hold pots or other articles to be heated. Set of 3 pieces. Wt., per dozen — lbs. Per dozen.....$3.00

STERNO 3-IN-1 COMBINATION

This is one of the most useful sets in the Sterno line, and offers three uses in one article. It is a very efficient Baby milk warmer as the nursing bottle may be set upright in the ennamelware pot and is hot in a very few minutes. The pot itself may be used to prepare quick lunch or small amounts of any food and is especially useful in the sickroom. The stove unit itself may be used for any purpose where heat is desired and with any cooking utensil.

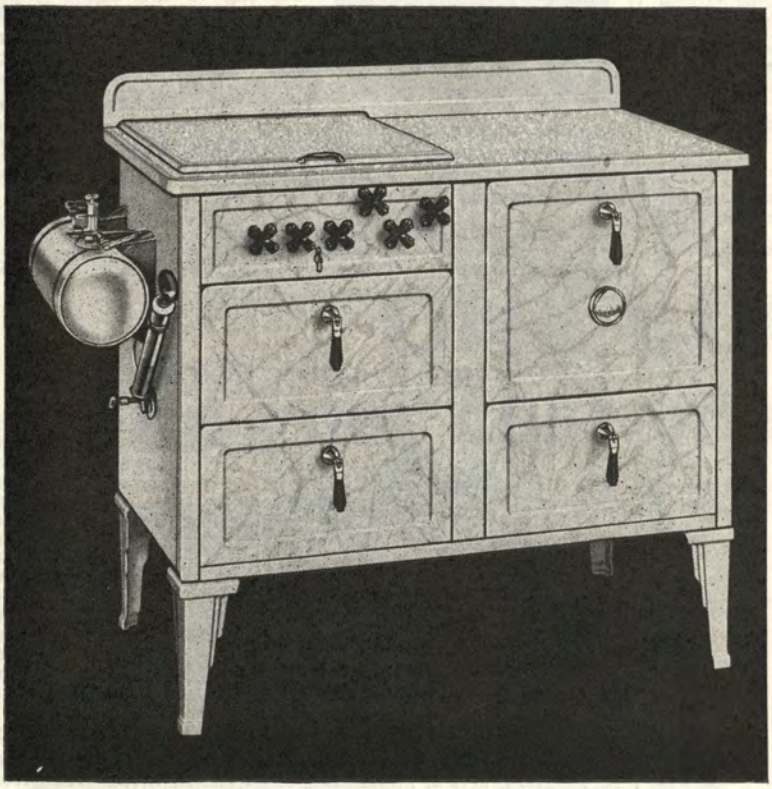
The stove is finished in blue enamel to match the vitreous enamel finish on the boiler and is so constructed that the flame is entirely enclosed. It is also built so that it will use both the large and small sizes of Sterno Canned Heat.

No. 15—Sterno 3-in-1 Combination. Per dozen $12.00
Packed in Shipping Cartons Containing, 2 dozen

PRESSURE KEROGAS RANGES

FOR GASOLINE

Instant Lighter—Strike a match and turn a valve. The lighter starts at once. No pre-heating tubes or hot blast cups t get out of order. The lighting is direct and cannot clog.



Will not flood. Most dependable—gives n trouble. There are no delicate parts to get out o order—no spring or coil in the generator to clo up. It is always ready for use—brings the con venience of a city gas range to homes without gas No other range for gasoline gas compares with i Each burner is regulated separately-turned high o low as required.

NO. 910 PRESSURE KEROGAS RANGE

Venetian-Ivory porcelain enamel finish with Terrazzo top and Ivory sides. Green trimmings as shown. Insulated oven Porcelain enameled oven linings. Four top cooking burners. Oven thermometer. Broiler drawer and two service drawers. Com bined fuel and pressure gauge. Built-on air pump. The cover of cooking top, when raised provides a splasher back.

Oven, inches	16x14x19	Depth, inches	28
Broiler Drawer, inches	14x5½x18	Height Closed, inches	39¾
Cooking Surface, inches	18½x18½	Height Open, inches	47
Cooking Height, inches	35¾	Shipping weight, lbs.	250
Length overall, inches	46½		

No. 910—Pressure Kerogas Range. Each $117.0

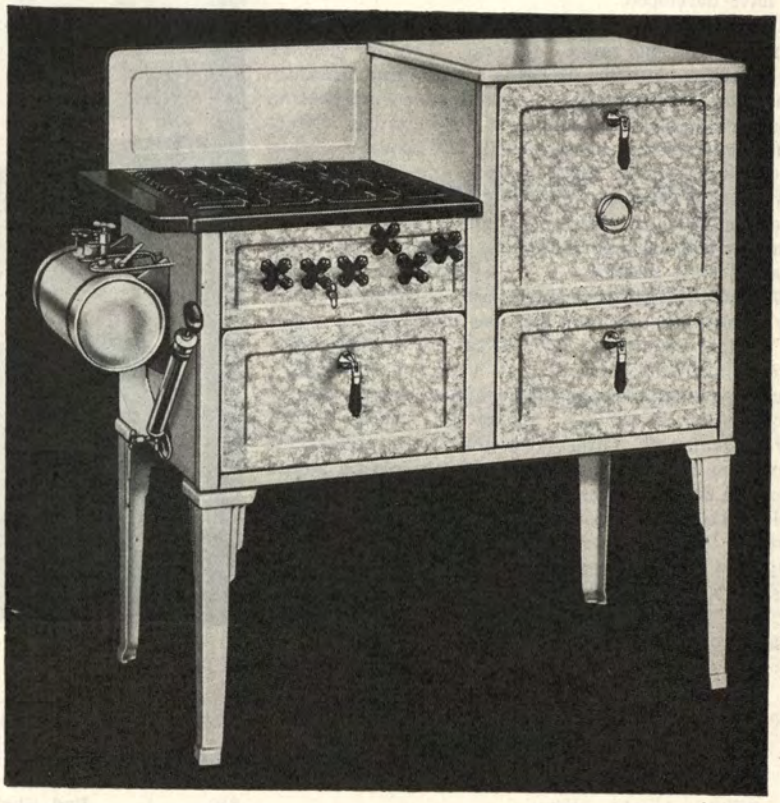
PRESSURE KEROGAS STOVES

FOR GASOLINE

Instant Lighter—strike a match and turn a valve. The lighter starts at once. No preheating tubes or hot blast cups to get out of order. The lighting is direct. Cannot clog. Will not flood. Most dependable—gives no trouble. There are no delicate parts to get out of order. No spring or coil in gerenator to clog up. It is always ready for use—brings the convenience of a city gas range to homes with out gas. No other range for gasoline gas compares with it. Each burner is regulated separately —turned high or low as required.

PRESSURE KEROGAS RANGE

Venetian—Ivory porcelain enamel finish. Insulated oven. Porcelain enameled oven linings. Four top cooking burners and oven burner. Oven thermometer. Broiler drawer. Service drawer. Combined fuel and pressure gauge. Built on air pump.



Specify Right or Left Oven

Oven, inches	16x14x19	Length Overall, inches	46½
Broiler Drawer, inches	14x5½x18	Depth, inches	27
Cooking Top, inches	20x2¾	Height, inches	43¼
End Shelf, inches	2½	Shipping weight, pounds.	230
Cooking Height, inches	34½		

No. 960R—(Right hand oven). Each $110.00

No. 960L—(Left hand oven). Each 110.00

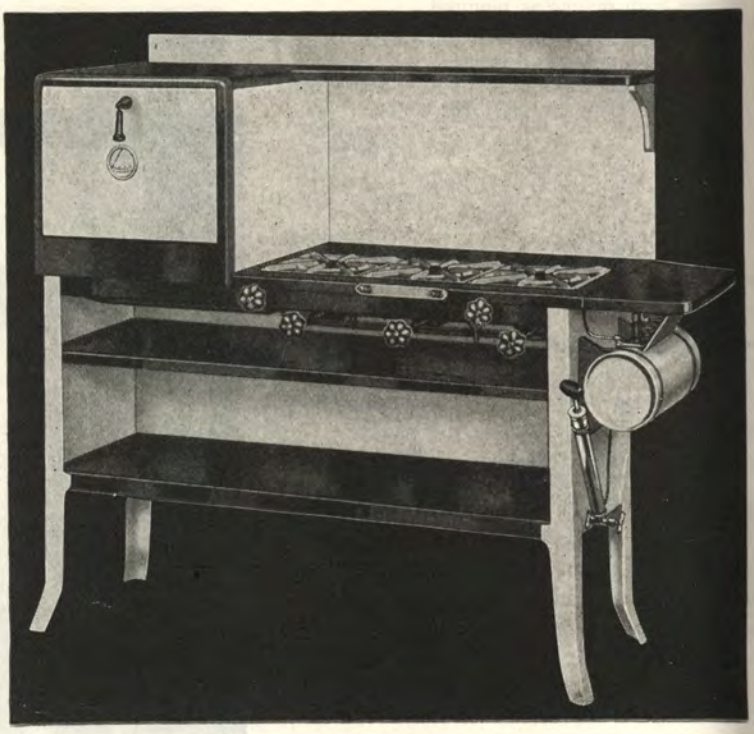
PRESSURE KEROGAS STOVES

FOR GASOLINE

Pressure Kerogas Ranges and Cooks maintain their leadership in the gasoline stove field. The simplicity of direct lighting ease of operation and perfect service performance are the outstanding achievements that we have developed.

To light—strike a match and turn the valve—like lighting a city gas range. No other stove for gasoline gas compares with it. It lights directly and instantly —no blow torch starting, no priming—no pre-heating tubes or hot blast cups that get out of order. Direct safety lighting—cannot clog—will not flood—is always ready—works every time—simple and reliable. No raw gasoline used in lighting—no danger of flooding when lighting—no gasoline running out should the flame accidentally be blown out or otherwise extinguished while lighting.

Uses air for lighting which costs no money—just a few strokes of the pump provides plenty of air. The air pump i built on—a part of the stove itself; operated from natural position at a convenient angle—pumps up and down without pushing the stove around. Each burner is regulated separately, turned high or low as required. Large open grate area utilizes the maximum cooking space—two utensils can be placed over one burner—three or four over two. The regular series two burner stove has 10½x18½ inches grate surface; three burner 10½x28 inches; four burner 10½x38½ inches. Perfect combustion provides cleanliness. No smudge or soot. Utensils do not smoke up. All parts of the stove itself with their durable finish are readily kept clean.



No. 934A—R or L Pressure Kerogas Ranges

Cooking height, inches	31½	End Shelf, inches	8½
Oven, inches	16x12x18½	Height, inches	50
Cooking Top, inches	30¾x19	Shipping weight, pounds	208

Ivory porcelain enameled oven door and splashers. Body sides and legs are green Japan. Cast iron oven bottom with removable lid. Removable top grates. Three top cooking burners. Oven thermometer. Combined fuel and pressure gauge. Built on air pump.

No. 934AR—(Right Hand Oven). Each $70.50

No. 934AL—(Left Hand Oven). Each 70.50

KEROSENE WATER HEATERS

HOTSTREAM

Hotstream Kerosene Heaters operate in the same manner as heaters burning gas, bringing to suburban and country homes the same hot water service enjoyed by city dwellers.

They, without doubt, are the most efficient Kerosene Water Heaters made. The Quadruple Coils of Copper, together with the nationally famous "Kerogas" Wick Burner, produce an efficiency never before attained.

This remarkably efficient heater probably has the widest sale of any Kerosene Heater made. Extremely simple in operation—requires little care—easily installed and very economical to use. Consumes but one gallon of Kerosene on full fire in 19½ hours—on low fire, as the Heater is generally used, to supply continuous hot water, a gallon of Kerosene lasts 30 hours.

No. 20K.W.—Weight, burner and heater complete in one crate, 50 pounds. Each $38.00

Hotstream "20 G. K." is of the same type of construction as "'20 K. W.," the only difference being that the "Giant" size Kerogas Burner is used. This means quicker heating and larger quantities of hot water. Operates 19 hours per gallon on low fire, and 13 hours on full fire.

No. 20 G. K.—Weight, burner and heater complete in one crate, 52 pounds. Each $45.00

Two Kerosene Heaters in one—two sets of the famous "Quadruple Coils of Copper" are combined into a twin heater which is a marvel of efficiency and compactness. "Kerogas" Wick Burners—A special feature of the Twin K.W. is that either burner may be used separately, or both together. Thus, for average hot water service 24 hours a day, one burner is operated on low fire. When the extraordinary demand comes, you light them both.

Hotstream "Twin K. W." in addition to its great practical utility, is the most beautiful Kerosene Heater made. It will "grace" any home. If you want the best Kerosene Heater—here it is.

±No. "Twin K. W."—Weight, Burner and Heater complete in one crate, 90 lbs. Each $70.00

Items marked ± are F. S., F. O. B. Cleveland, Ohio.

KEROGAS OIL RANGE

THE NEW BUFFET

Here's the last word in modern oil range cooking equipment. New BEAUTY . . . new features that irresistibly appeal to the housewife and directly aid in closing the sale. The time tested features of patented KEROGAS burner equipment insure simple, efficient operation together with fuel economy.

Burns 400 Gallons of Air With Every Gallon of Kerosene Oil

Cooks, Bakes and Operates as Easily and Perfectly as a Gas Range—More Economical

Beautifully porcelain enameled in ivory with Italian marble finish top, an attractive color scheme that harmonizes with any surroundings. Equipped with four regular Kerogas brass burners, two under the cooking top and two under the oven, concealed by disappearing drop doors. A roomy utility drawer provides convenient storage space for frequently used utensils. Pendant handles are cool and convenient. Removable cover plate over the cooking top. The latter has two key plates with four cooking holes, two directly over the burners and two auxiliary. Porcelain oven linings.

Oven, inches	16x12x18½	Depth, inches	22
Cooking surface, inches	19¼x20	Total height, inches	38½
Cooking Height, inches	36	Shipping weight, lbs.	285
Length, inches	48		

Above view shows cooking top ready for use. Note the roomy oven

No. 9000A—Porcelain enameled in ivory with Italian marble finish top. Each $99.50

PATENTED KEROGAS BURNERS

Are of genuine brass, body drawn out of one solid piece—rust-proof and seamless. Removable top rim can be taken off the burner by a mere twist of the hand. Provide a clean, powerful flame, always under instant control.

SCIENTIFICALLY CONSTRUCTED DRUM

Kerogas burner drums are scientifically constructed to extract the maximum amount of gas from the oil and mix it with the proper amount of air for perfect combustion. Burn like a gas range—not like a lamp.

WICK-RAISING DEVICE

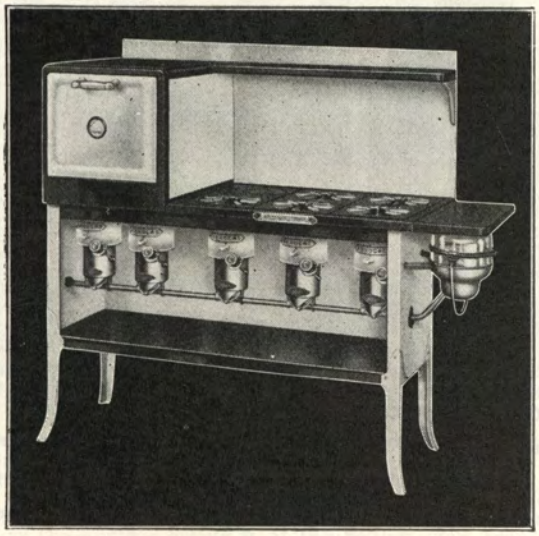
This feature of the Kerogas burner has two cog wheels with three points of support for the stem. It grips the wick carrier at all times, insuring perfect operation and free adjustment of the wick.

AUXILIARY COOKING TOP

Surplus heat is carried back to the fireless cooking holes in the rear. Two or more vessels of food utilize the heat generated by only one burner. Extra cooking capacity without increasing fuel consumption.

KEROGAS OIL RANGE

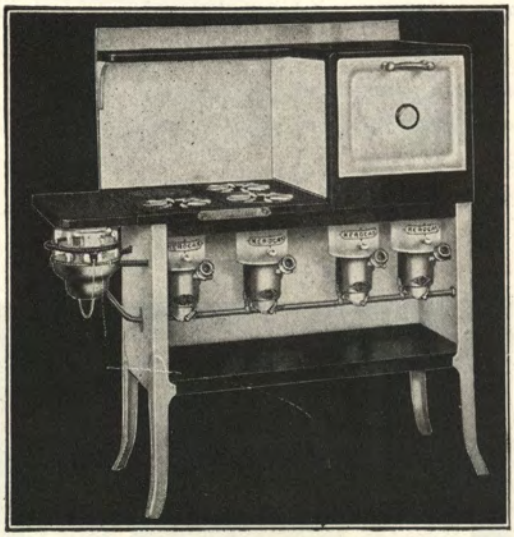
Two burners for oven, three under cooking top, the latter fitted with three key plates having six holes—three directly over the burners and three auxiliary at the rear. Top has one solid cover with reducing ring. Oven door, side and back splashers white porcelain enamel. Body finished in gray japan with black cooking top, end shelf, main oven front, top shelf and lower shelf. Glass oil tank. Oven thermometer, Anti-rust metal oven linings.



Cooking Height, inches	32	End Shelf, inches	8½
Extreme Height, inches	50½	Oven, inches	14x12x20
Floor Space, inches	56½x24½	Shipping weight, pounds	181
Cooking Top, inches	30½x20¾		

No. 8560WR—White and Gray.	With Right Hand Oven.	Each	$72.00
No. 8560WL—White and Gray.	With Left Hand Oven.	Each	72.00
No. 8560GR—Green and Ivory.	With Right Hand Oven.	Each	72.00
No. 8560GL—Green and Ivory.	With Left Hand Oven.	Each	72.00

KEROGAS OIL RANGE



Two burners for oven, two under cooking top, the latter fitted with two key plates having four holes—two directly over the burners and two auxiliary at the rear. Top has one solid cover with reducing ring. Oven door, side and back splashers white porcelain enamel. Body finished in gray japan with black cooking top, end shelf, main oven front, top shelf and lower shelf, main oven front, top shelf and lower shelf. Glass oil tank. Oven thermometer. Anti-rust metal oven linings.

Cooking Height, inches	32	End Shelf, inches	8½
Extreme Height, inches	50½	Oven, inches	14x12x20
Floor Space, inches	48x24½	Shipping weight, pounds	168
Cooking Top, inches	21¼x20¾		

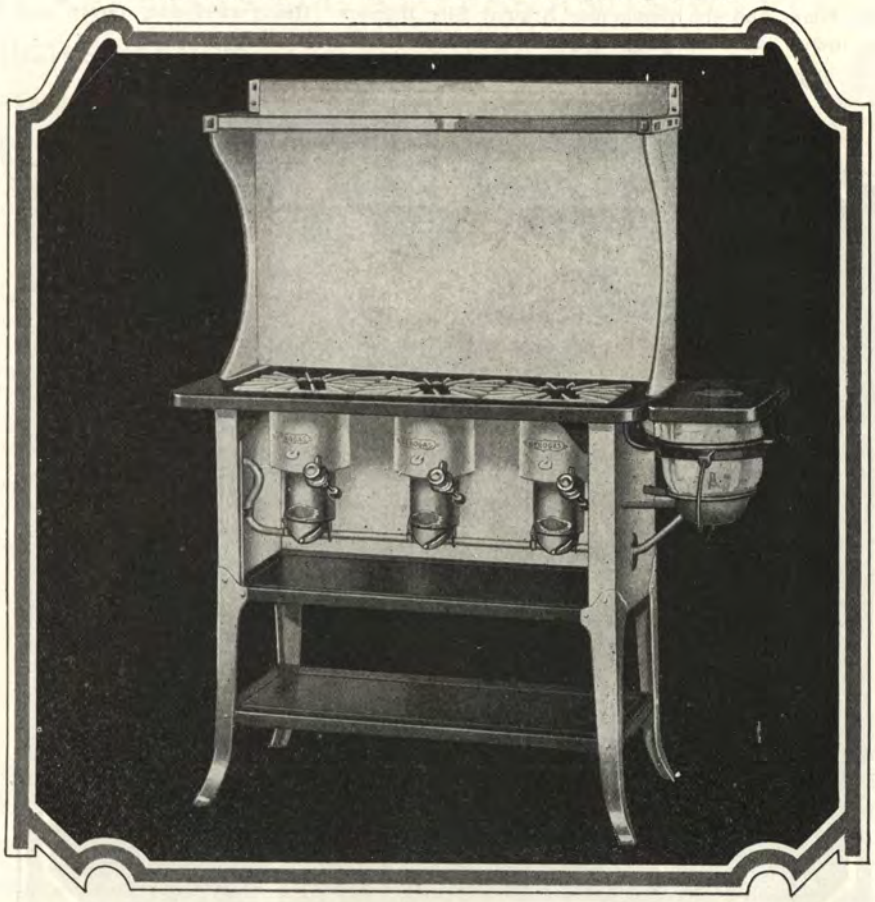
No. 8360WR—White and Gray. With Right Hand Oven. Each..... $59.50

No. 8360WL—White and Gray. With Left Hand Oven. Each..... 59.50

No. 8360GR—Green and Ivory. With Right Hand Oven. Each..... 59.50

No. 8360GL—Green and Ivory. With Left Hand Oven . Each..... 59.50

KEROGAS OIL COOK STOVES



All Regular size Kerogas Burners. Heavy steel body and top finished in black rubberoid with full cabinet back and lower shelf. Cooking Height, 31½ inches.

Patented Kerogas Burners are of genuine brass, drawn out of one solid piece—rust proof and seamless. Each Kerogas burner generates gas from the kerosene mixing 400 gallons of air with every gallon of kerosene oil. This provides a clean, powerful flame, always under instant control, concentrated directly under the cooking vessel or oven bottom. No waste heat—no waste fuel. Oil Inlet—The Oil Inlet on the Kerogas burner is at the bottom, thus guarding against water which may collect in the Kerosene from entering the burner. The union nut connection of the burner to the feed pipe secures positive contact without any chance of tilting of the burner. Wick Raising Device—This feature on the Kerogas burner has two cog wheels with three points of support for the stem. It grips the wick carrier at all times, insuring perfect operation and free adjustment of the wick. Wick regulator—Permits setting so that you can at all times regulate the flame with the control handle. Makes the stove as easy to operate as a gas range. Saves dollars in wicks and oil.

Scientifically Constructed Drum—Kerogas burner drums are scientifically constructed to extract the maximum amount of gas from the oil and mix it with the proper amount of air for perfect combustion. Burns like a gas range—not like a lamp. Glass Oil Tank—Supply of oil is always visible. Has bail and handle for easy carrying. Genuine Brass Sub-Tank—The Sub-tank under the glass kerosene oil fount is made of brass. It is rust-proof—another lasting feature of Kerogas Oil Ranges and Cook Stoves. Square Top Grates—The extra large square top Grates on the Cook Stoves utilize the full heating capacity of the burners. Each grate measures 9¼x10½ inches. Permits the use of two utensils over one burner, three or four over two.

NO SHELF

Numbers	**229GI**	**239GI**	**249GI**
Burners	2	3	4
Size, top, inches	25½x17½	35x17½	43½x17½
Weight, each, lbs.	57	69	81
Each	$20.20	$26.00	$31.50

WITH IVORY AND GREEN HIGH SHELF

Numbers	**229GIS**	**239GIS**	**249GIS**
Burners	2	3	4
Size, top, inches	25½x17½	35x17½	43½x17½
Weight, each, lbs.	79	95	112
Each	$25.80	$32.30	$39.70

GIANT KEROGAS COOK STOVES

Equipped with One Giant and the Remainder Regular Size Burners. Heavy steel body Green and Ivory Finish. Large cast top grates, 9¼x10½ inches each. Cooking Height 31½ inches.

Patented Kerogas Burners are of genuine brass, drawn out of one solid piece—rust-proof and seamless. Each Kerogas burner generates gas from the kerosene mixing 400 gallons of air with every gallon of kerosene oil. This provides a clean, powerful flame, always under instant control, concentrated directly under the cooking vessel or oven bottom. No waste heat—no waste fuel. Oil Inlet—The oil inlet on the Kerogas burner is at the bottom ,thus guarding against water which may collect in the kerosene from entering the burner.

Scientifically constructed Drum—Kerogas burner drums are scientifically constructed to extract the maximum amount of gas from the oil and mix it with the proper amount of air for perfect combustion. Burns like a gas range—not like a lamp Glass Oil Tank—Supply of oil is always visible. Has bail and handle for easy carrying. Genuine Brass Sub-Tank—The sub-tank under the glass kerosene oil fount is made of brass. It is rust-proof—another lasting feature of Kerogas Oil Ranges and Cook Stoves. Square Top Grates—The extra large square top grates on the Cook Stoves utilize the full heating capacity of the burners. Each grate measures 9¼x10½ inches. Permits the use of two utensils over one burner, three or four over two.

IVORY AND GREEN

Numbers	1292GI	1293GI	1294GI
Giant Burners	1	1	1
Regular Burners	1	2	3
Total Number of burners	2	3	4
Size of Top, inches	25½x17½	35x17½	43½x17½
Wt., each, pounds	57	69	84
Each	$26.50	$32.00	$38.00

WITH IVORY AND GREEN HIGH SHELF

Numbers	1292GIS	1293GIS	1294GIS
Giant Burners	1	1	1
Regular Burners	1	2	3
Total Number of Burners	2	3	4
Size of Top, inches	25½x17½	35x17½	43½x17½
Weight, each, pounds	79	95	115
Each	$30.60	$37.30	$44.70

KEROGAS OIL STOVES AND SHELVES

HIGH SHELVES

PLAIN

"These high shelves have green japan sides and top with ivory japan splasher back."

No. 29GI—For Nos. 292S, 29SG and 92S; weight, 26 pounds. Each $6.10

No. 39GI—For Nos. 392S, 39SG and 93S; weight, 30 pounds. Each $6.80

No. 40GI—For Nos. 492S, 49SG and 94S; weight 34 pounds. Each $8.20

DIRECTIONS FOR OPERATING KEROSENE OIL COOKING STOVES

Always have stop on valve set so the wick cannot be turned higher than the upper edge of the brass burner.

This can easily be done by raising or lowering the wick as case may require until it is even or a trifle below upper edge of brass burner. Then place pointer against stop and fasten by tightening thumb nut.

This will not need changing for weeks.

To light burner tilt up drum and raise wick to stop.

Wick must be no higher than upper edge of brass burner.

Then light wick with match at several places which will sprad flame around quickly. Leave in this position until the fire is in a good blue condition.

Then lower wick about one-sixth of a turn into burner tubes.

It will reduce flame for about ten seconds but the fire will come right up again and will keep up a very hot fire with the least amount of oil and save the wick.

The wick should never be exposed while stove is in full operation.

If wick is raised too high the intense heat will char and ruin the wick.

To extinguish fire turn down wick as far as it can be turned. Do not use scissors or wick trimmers except to trim a loose thread. If you want to smooth wick rub it one way with a cloth carefully.

Keep tank filled with good kerosene oil. Never let it run dry.

It needs no more care than an ordinary kerosene lamp.

When wick has been used up, put in new one which can be had mounted ready for use—it can be had at nominal cost from dealer.

DON'T TURN WICK TOO HIGH NOR LET STOVE RUN DRY

Richardson Boilers

★ ★ ★

The Richardson & Boynton Company was a pioneer among the manufacturers of cast iron boilers for heating systems. The accumulated knowledge of years of experience in the heating of buildings of all kinds stands behind every Richardson Boiler, and the name Richardson in itself is a guarantee of efficient service at low cost.

Years of close contact with the heating trade have developed a noteworthy consciousness of trade protection and a reputation for responsibility to the public.

Typical of the campany's attitude and responsibility to heating contractors and the public is its practice of testing each section of every boiler at high water pressure, of carefully reaming and machining all sections and of fully assembling the boiler before shipment. When assembled, the boiler is again tested at high water pressure to make sure that all connections and sections are "perfect" in every respect. This is an exceptional practice, and an expensive one.

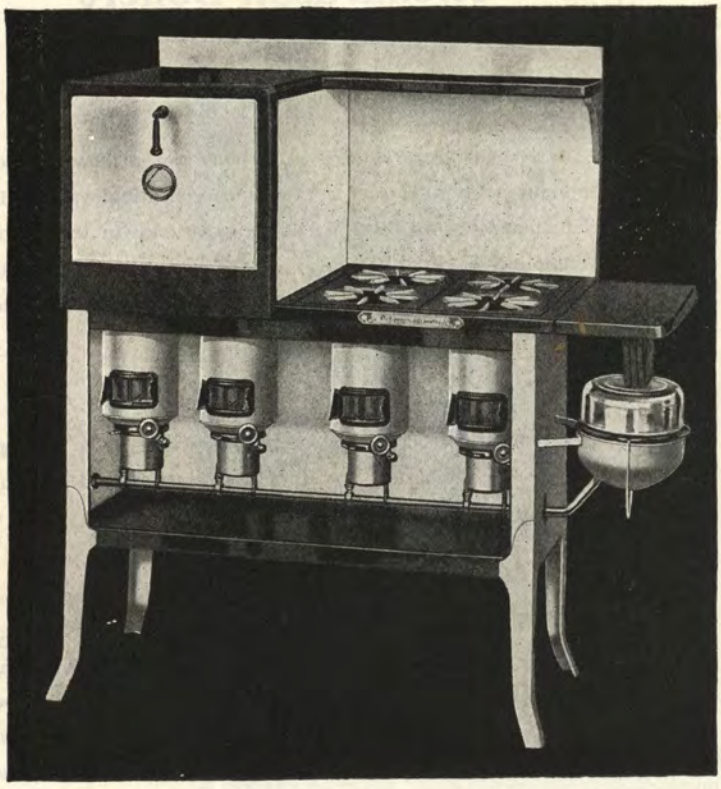
All Richardson Boilers are rated according to A. S. M. E. standards. These ratings are absolutely dependable and with every Richardson Boiler goes the Richardson & Boynton Company guarantee of perfection in workmanship and materials efficiency in operation.

Richardson Radiation is designed and constructed under the same strict standards as Richardson Boilers, and, with the Richardson & Boynton Heating and Radiation Specialties described in this catalog, forms a complete Heating Line of Uniform high quality and effectiveness.

All heating contractors and members of the professions allied with the heating industry are urged to inspect our manufacturing facilities and methods, so that they may familiarize themselves with the excellence of Richardson Boilers and Richardson Radiation and so specify and sell them with complete confidence.

OIL RANGES AND STOVES

PREMIER LONG CHIMNEY



No. 2460D R or L Green Premier Oil Range

A KEROGAS PRODUCT

Two burners under oven, two under cooking top, the latter fitted with two key plates having four holes—two directly over the burners and two auxiliary at the rear. Porcelain enameled oven door and burner drums. Glass oil tank. Oven thermometer. Burner drums are fitted with mica doors.

Cooking height, inches	32
Extreme Height, inches	50
Floor Space, inches	48x24½
End Shelf, inches	8½
Cooking Top, inches	21¼x20¾
Oven, inches	14x12x20
Shipping weight, pounds.	162

No. 2460DR—Ivory and Green, Right hand oven.
Each $50.00

No. 2460DL—Ivory and Green, Left hand oven.
Each $50.00

PREMIER LONG CHIMNEY BURNERS

Are made of brass, drawn out of one piece, rust-proof and seamless, and provide a clean, intense flame, readily controlled. The oil inlet is from below which avoids trapping any water which may collect in kerosene. A union nut connection of the burner to the feed pipe makes a tight joint.

Wick Raising Device—Is positive in operation, grips the wick carrier firmly and allows free movement of the wick in burner; provided with wick stop and ring for tilting burner drum to facilitate lighting.

Finished in green and ivory as illustrated. Burner Drums porcelain enameled. Cooking height, 31½ inches.

Nos.	302D	303D	304D
Size of Top, inches	25½x17½	35x17½	43½x17½
No. of burners	2	3	4
Shipping weight, pounds.	48	61	69
Each	$17.40	$22.30	$27.70

SAME AS ABOVE EXCEPT WITH HIGH SHELF

Numbers	302DS	303DS	304DS
Each	$20.90	$26.50	$32.60

OIL RANGES
PREMIER LONG CHIMNEY

A KEROGAS PRODUCT

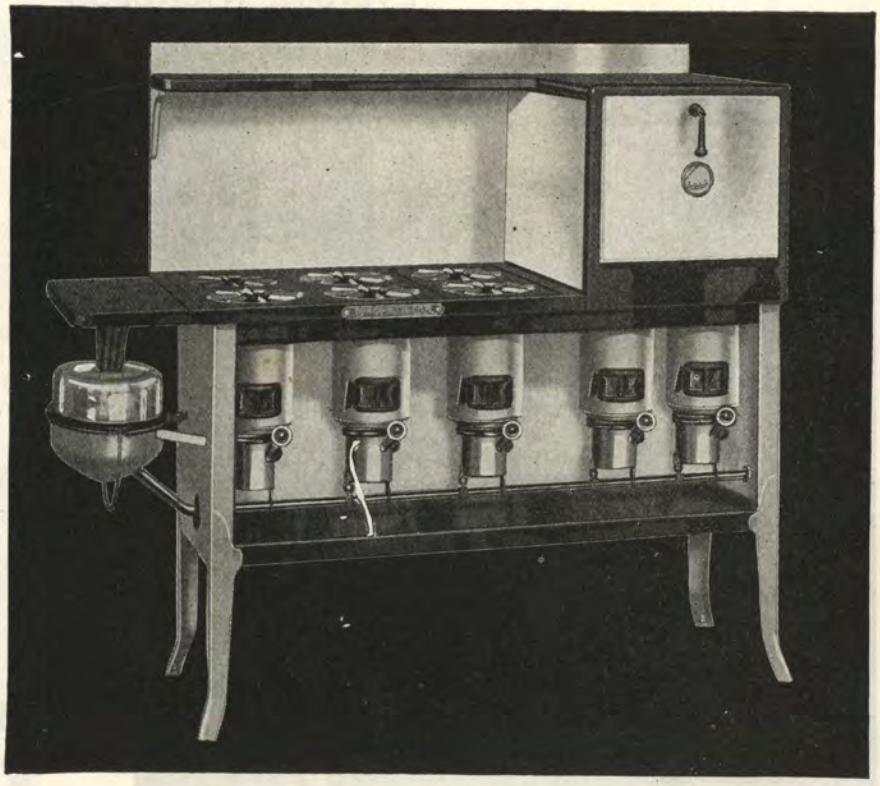
Provide a hot, blue flame concentrated directly under the cooking vessel or oven bottom—no wasted heat. Regulation of the flame is simplicity itself. Any heat, high, low, medium, at a turn of the control wheel. By mixing large quantities of air with the oil, the Premier Burner generates gas economically.

Oven Thermometer—On range ovens is a great convenience when using the oven.

Glass Oil Tank—Supply of oil is always visible. Has bail for easy carrying.

End Shelf—On all ranges, furnishes a convenient extension to the cooking top. Protects the glass oil tank.

Porcelain enameled oven door and burner drums. Glass oil tank. Oven thermometer. Two burners under oven, three for cooking top. Six holes—three directly over the burners and three auxiliary at the rear. Extra cooking capacity without increasing fuel consumption.



No. 2560D R or L Green Premier Oil Range

Cooking Height, inches	32
Extreme Height, inches	50
Floor Space, inches	56½x24½
Cooking Top, inches	30¾x20¾
End Shelf, inches	8½
Oven, inches	14x12x20
Shipping weight, pounds	190

No. 2560DR—Ivory and Green. Right hand oven. Each $56.50

No. 2560DL—Ivory and Green. Left hand oven. Each 56.50

No. 2550D R or L Green Premier Oil Range

Porcelain enameled oven door and burner drums. Glass oil tank. Oven thermometer. Two burners under oven, three for cooking top. Burner drums are fitted with mica doors.

Cooking height, inches	32
Extreme Height, inches	50
Floor Space, inches	55x23
Cooking Top, inches	30¾x19

No. 2550DR—Ivory and Green. Right hand oven. Each. $52.00

No. 2550DL—Ivory and Green. Left hand oven. Each... 52.00

AUXILIARY COOKING TOP

Two models of range are equipped with the auxiliary cooking top which enables one burner to do the work of two. Surplus heat is carried back to the fireless cooking holes in the rear and two or more vessels of food utilize the heat generated by only one burner, thus giving extra cooking capacity without increased fuel consumption.

OIL RANGES AND STOVES

EVERITE WICKLESS

Two burners under oven, two under cooking top, the latter fitted with two key plates having four holes—two directly over the burners and two auxiliary at the rear. Oven door and burner drums porcelain enamel. Balance trimmed in green and ivory. Glass oil tank. Oven thermometer.

Cooking height, inches	32
Extreme height, inches	50½
Floor Space, inches	48x24½
Cooking top, inches	21¼x20¾
End Shelf, inches	8½
Oven, inches	14x12x20
Shipping weight, lbs.	168

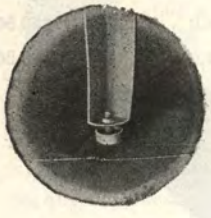
No. 5460DR—Ivory and Green. Right hand oven.
Each $47.50

No. 5460DL—Ivory and Green. Left hand oven.
Each $47.50

EASY TO LIGHT, OPERATE AND EXTINGUISH

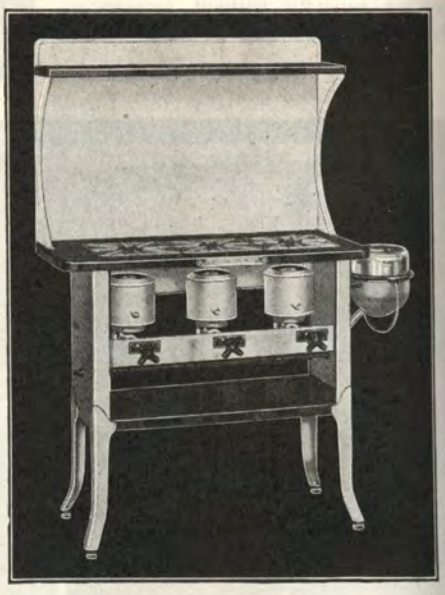
Everite Wickless Oil Burner

Just a turn of the handle and the burner is ready to light. The flame is brought up under the cooking vessel producing intense cooking or baking heat. Extremely simple in construction without complicated mechanism. Easy to light, operate and extinguish.



Leg Leveler

One is attached to each leg. Permits easy leveling. Screwed up or down to lower or raise any corner of the stove to level.



HIGH SHELVES, EXTRA

For Everite Wickless Oil Stoves—Color green

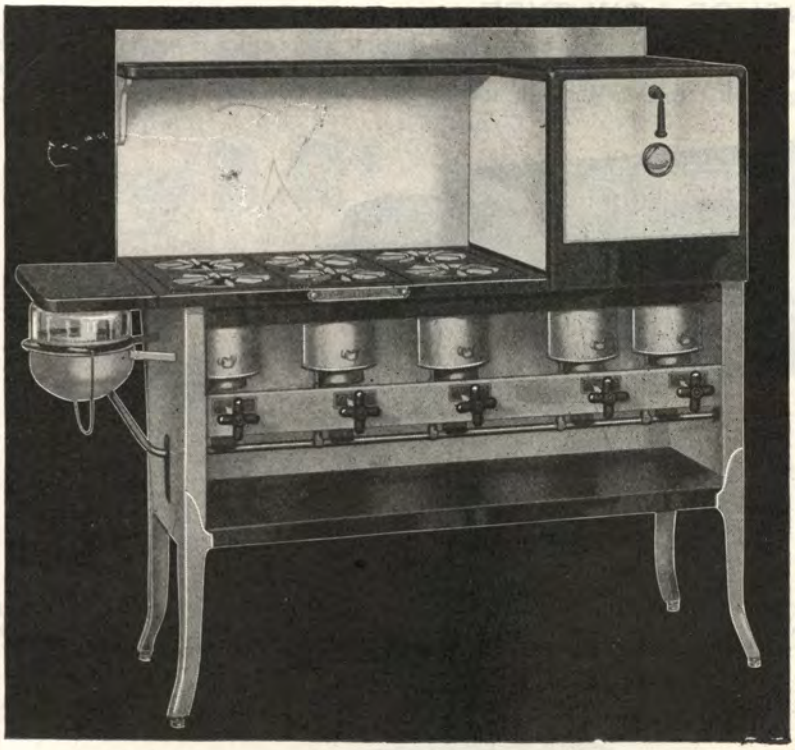
	For	Ship. Wt.,	Each
No. 2BG	2 Burner	21 lb.	$3.50
No. 3BG	3 Burner	27 lbs.	4.20
No. 4BG	4 Burner	32 lbs.	5.00

No. 63C—Green Everite Wickless Oil Cook

Finished in green and ivory as illustrated. Burner drums porcelain enameled. Cooking height, 32 inches.

	No. of Burners	Size of Top Ins.	Ship. Wt., lbs.	Without High Shelf
No. 62D	2	25½x17½	48	$16.20
No. 63D	3	35 x17½	61	20.20
No. 64D	4	43½x17½	69	24.70

EVERITE WICKLESS OIL RANGES



No. 5560C R or L Green Everite Wickless Oil Range

Cooking Height, inches	32
Extreme height, inches	50½
Floor space, inches	56½x24½
Cooking Top, inches	30½x20¾
End Shelf, inches	8½
Oven, inches	14x12x20
Shipping weight, pounds	186

No. 5560DR—Ivory and Green. Right hand oven. Each $53.50

No. 5560DL—Ivory and Green. Left hand oven. Each 53.50

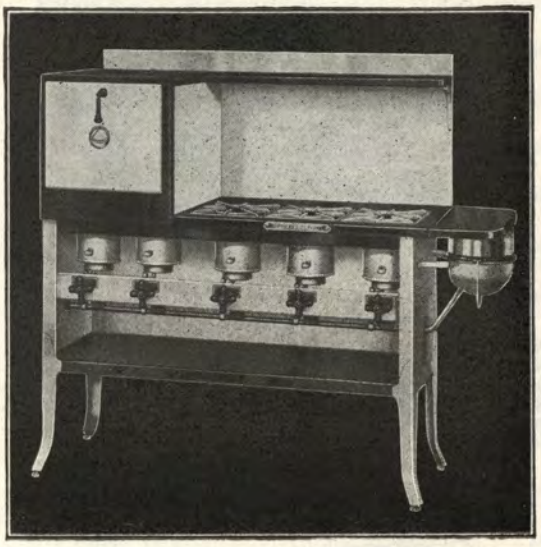
EVERITE BURNER DRUM

Burner drums are porcelain enameled. Scientifically constructed with perforated inner tubes for the proper mixture of air and gas to secure the most intense cooking heat with the greatest economy in fuel consumption.

INDICATOR

Raising and lowering of the lighting ring is accomplished by means of a rack and gear operated by a handle projecting at the front and equipped with an indicator showing the proper positions for "lighting", "burning zone" and "out."

Oven door and burner drums porcelain enamel. Balance trimmed in green and ivory. Glass oil tank. Oven thermometer. Two burners under oven, three under cooking top, the latter fitted with three key plates having six holes—three directly over the burners and three auxiliary at the rear.



No. 5550C R or L Green Everite Wickless Oil Range

Oven door and burner drums porcelain enamel. Balance trimmed in green and ivory. Glass oil tank. Oven thermometer. Two burners under oven, three under cooking top.

Cooking height, inches	32
Extreme Height, inches	50½
Floor Space, inches	55x23
Cooking Top, inches	30¾x19
End Shelf, inches	8½
Oven, inches	14x12x20
Shipping weight, pounds	186

No. 5550DR—Ivory and Green. Right hand oven. Each..$49.50
No. 5550DL—Ivory and Green. Left hand oven. Each.. 49.50

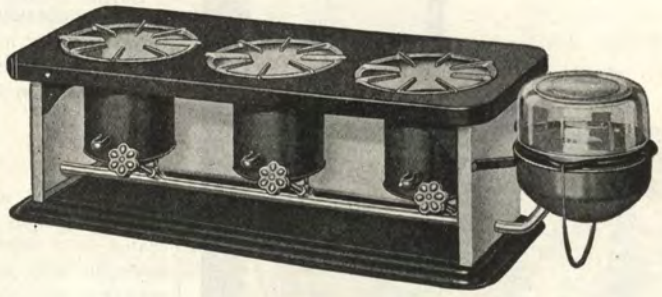
AUXILIARY COOKING TOP

Two models of the ranges are equipped with the auxiliary cooking top which enables one burner to do the work of two. Surplus heat is carried back to the fireless cooking holes in the rear and two or more vessels of food utilize the heat generated by only one burner, thus giving extra cooking capacity without increased fuel consumption.

BLUE FLAME OIL STOVE

ANCHOR LOW TYPE

Simple in construction and easily controlled, these low style stoves are especially useful where space is limited. Generate gas from kerosene oil. Built with a well constructed steel frame and base. Body attractively finished in green. Have glass oil tank with automatic oil feed. Not made for high shelf. Total height, 10¾ inches.

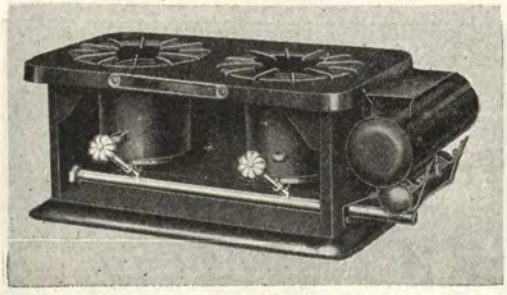


No. 033 ANCHOR

BLUE FLAME OIL STOVE

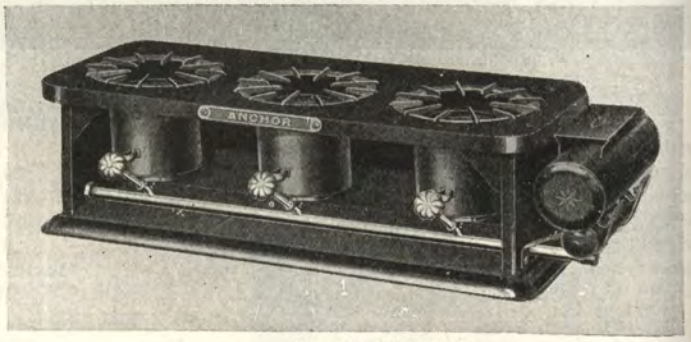
Numbers	032	033
Number of burners	2	3
Size of Top, inches	22x14	32x14
Shipping weight, pounds	28	36
Each	$8.30	$11.00

These Anchor stoves provide ideal cooking service economically, indoors or out—in the home, camp or anywhere that quick heat is desired. Generate gas from kerosene oil. Built with a well constructed steel frame and base. Finished in black rubberoid. Have safety oil tank with automatic oil feed. Not made for high shelf. Total height, 9¾ inches.



No. 32 ANCHOR

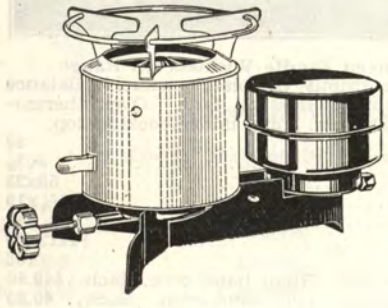
BLUE FLAME OIL STOVE



No. 33 ANCHOR

BLUE FLAME OIL STOVE

Nos.	31	32	33
Number of Burners	1	2	3
Size of Top, inches	14x14	22x14	32x14
Shipping weight, pounds	13	18	23
Each	$6.00	$7.50	$10.00



NO. 30 ANCHOR WICKLESS OIL STOVE

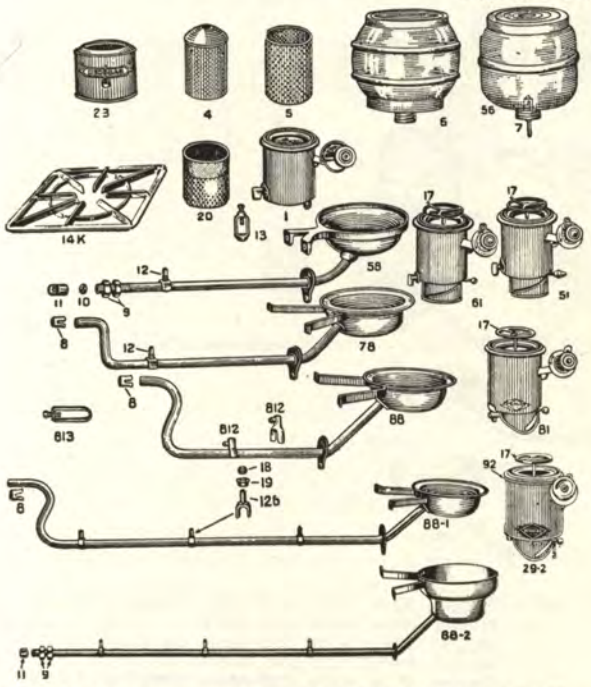
Being readily portable, free from excess weight, this Anchor stove can be used anywhere about the home or transported elsewhere. Efficient for outdoor use. Safety oil tank with automatic oil feed. Well constructed steel frame and legs permit the use of heavy utensils. Practical hard-baked black japan finish.

Well constructed steel frame, legs and fuel tank black japanned finish. Safety oil tank with automatic oil feed. Burner drum aluminized finish.

No. 30—Height overall 9 inches. Width overall 15 inches. Capacity of tank 1 quart. Weight each — pounds. Each $3.50

‡OIL COOKING STOVE PARTS

Regular Kerogas Oil Stove Parts



‡No. 1—Burner complete with Wick (without burner drum) 1914 and years previous.....$3.70

No. 4—Inner Perforated Tube of Burner Drum (replaces former flat top style) ..... .34

No. 5—Outer Perforated Tube of Burner Drum ..... .34

‡No. 6—Glass Oil Tank with Automatic Valve (prior to 1915) 1.80

No. 7—Automatic Valve only for Glass Oil Tank .... .32

‡No. 8—Slip Cap for end of Supply Pipe. Per doz.... .50

‡No. 9—Two Lock Nuts on Supply Pipe ..... .20

‡No. 10—Lead Plug only for Pipe Cap. Each ..... .20

‡No. 11—Pipe Cap with Plug for end of Supply Pipe .. .20

‡No. 12—Saddle on Supply Pipe for Clamp Burner Holder ..... .30

‡No. 13—Clamp Burner Holder with Set Screw ..... .30

‡No. 14K—Top Grates (prior to 1929) 9¼x9 in. (1929 and later) 9¼x10½ in. ..... .70
Top Grates, round ..... .70

‡No. 17—Lifting Wheel on top of burner ..... .30

‡No. 18—Washer for Union Nut Connection ..... .20

‡No. 19—Union Nut only ..... .20

No. 20—Wick, with carrier complete, per dozen 3.90

No. 23—Burner Drum complete (enameled) 1.80

No. 29-2—Regular Kerogas Burner (complete with wick, without drum) (1926 and later) 3.70

‡No. 51—Burner (1915) complete with Wick (Without burner drum) 3.70

No. 56—Glass Oil Tank with Automatic Valve (1915 and later) 1.80
Bail and carrier for glass oil tank ..... .50

‡No. 58—Supply Pipe with Sub-tank complete for 1 burner stove 2.90
Supply Pipe with Sub-tank complete for 2 burner stove 3.60
Supply Pipe with Sub-tank complete for 3 burner stove 4.20
Supply Pipe with Sub-tank complete for 4 burner stove 4.80
Supply Pipe with Sub-tank complete for 5 burner stove 5.40

‡No. 61—Burner (1916-17) complete with Wick (without burner drum) 3.70

‡No. 78—Supply Pipe with Sub-tank complete for 1 burner stove 2.90
Supply Pipe with Sub-tank complete for 2 burner stove 3.60
Supply Pipe with Sub-tank complete for 3 burner stove 4.20
Supply Pipe with Sub-tank complete for 4 burner stove 4.80
Supply Pipe with Sub-tank complete for 5 burner stove 5.40

No. 81—Burner (1918-25) complete with Wick (without burner drum) 3.70

‡No. 88—Supply Pipe with Sub-tank complete for 1 burner stove (prior to 1926) 2.90
Supply Pipe with Sub-tank complete for 2 burner stove (prior to 1926) 3.60
Supply Pipe with Sub-tank complete for 3 burner stove (prior to 1926) 4.20
Supply Pipe with Sub-tank complete for 4 burner stove (prior to 1926) 4.80
Supply Pipe with Sub-tank complete for 5 burner stove (prior to 1926) 5.40

‡No. 88-1—Supply Pipe with Sub-tank complete for 2 burner stove (1926 and later) 3.60
Supply Pipe with Sub-tank complete for 3 burner stove (1926 and later) 4.20
Supply Pipe with Sub-tank complete for 4 burner stove (1926 and later) 4.80
Supply Pipe with Sub-tank complete for 5 burner stove (1926 and later) 5.40

‡No. 88-2—Supply Pipe with Sub-tank complete for 2 burner stove (1932) 3.60
Supply Pipe with Sub-tank complete for 4 burner stove (1932) 4.80
Supply Pipe with Sub-tank complete for 4 burner range 4.80
Supply Pipe with Sub-tank complete for 5 burner range 6.60
Supply Pipe with Sub-tank complete for Buffet range (upper) 3.60
Supply Pipe with Sub-tank complete for Buffet range (lower) 3.60

‡No. 92—Top rim only for 29-2 Burner ..... .70

‡No. 126—Saddle for Supply Pipe (1926 and later) ..... .30

‡No. 812—Saddle on Supply Pipe for Clamp Burner Holder (prior to 1926) ..... .30

‡No. 813—Clamp Burner Holder with Set Screw (prior to 1926) ..... .30

‡Steel Legs with Bolts, each ..... .50

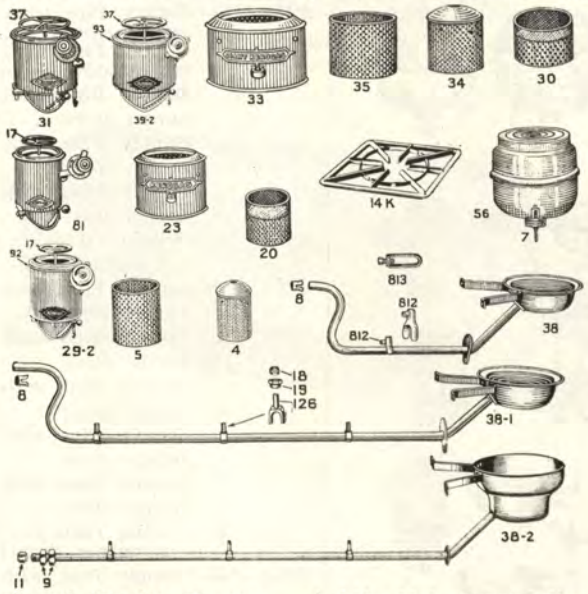
‡Cast Iron Legs for 5 burner and No. 409 Cabinet Oil Range, each 1.40

All items marked thus ‡ not carried in stock but shipped direct from factory.

‡OIL COOKING STOVE PARTS

Giant Kerogas Stove Parts.

Parts listed below are especially for the Giant Kerogas Stoves



No. 4—Inner Perforated Tube of Regular Burner Drum (replaces former flat top style) $0.34
No. 5—Outer Perforated Tube of Regular Burner Drum ..... .34
No. 7—Automatic Valve for Glass Oil Tank ..... .32
‡No. 8—Slip Cap for End of Supply Pipe, per dozen.. .50
‡No. 9—Two Lock Nuts for 38-2 Supply Pipe ..... .20
‡No. 11—Cap and Plug for 38-2 Supply Pipe ..... .20
‡No. 14K—Top Grates (prior to 1929) 9¼x9 in. (1929 and later) 9¼x10½ in. ..... .70
No. 17—Lifting Wheel on Top of Regular Kerogas burners ..... .30
No. 18—Washer for Union Nut Connection ..... .20
No. 19—Union Nut Only ..... .20
No. 20—Regular Burner Wicks, complete, per dozen .. 3.90
No. 23—Regular Burner Drum, complete 1.80
No. 29-2—Regular Kerogas Burner (complete with wick, without burner drum) (1926 and later) 3.70
No. 30—Giant Wicks, with carrier complete, per dozen 6.30
No. 31—Giant Kerogas Burner, complete with wick (without burner drum) (prior to 1926) 6.50
No. 33—Giant Kerogas Burner Drum, complete 2.80
No. 34—Inner Perforated Tube of Giant Burner Drum (replaces former flat top style) ..... .70
No. 35—Outer Perforated Tube of Giant Burner Drum. .70
‡No. 37—Lifting Wheel and Rod on Top of Giant Kerogas Burner ..... .30
‡No. 38—Supply Pipe with Sub-tank complete for 2 burner stove (prior to 1926) 3.60
Supply Pipe with Sub-tank complete for 3 burner stove (prior to 1926) 4.20
Supply Pipe with Sub-tank complete for 4 burner stove (prior to 1926) 4.80
Supply Pipe with Sub-tank complete for 5 burner stove (prior to 1926) 5.40

‡No. 38-1—Supply Pipe with Sub-tank complete for 2 burner stove (1926 and later) 3.60
Supply Pipe with Sub-tank complete for 3 burner stove (1926 and later) 4.20
Supply Pipe with Sub-tank complete for 4 burner stove (1926 and later) 4.80
Supply Pipe with Sub-tank complete for 5 burner stove (1926 and later) 5.40
‡No. 38-2—Supply Pipe with Sub-tank complete for 2 burner stove (1932) 3.60
Supply Pipe with Sub-tank complete for 3 burner stove (1932) 4.20
Supply Pipe with Sub-tank complete for 4 burner stove (1932) 4.80
Supply Pipe with Sub-tank complete for 8850-9950 Series Ranges 6.70
‡No. 39-2—Giant Kerogas Burner (complete with wick, without burner drum) (1926 and later)..... 6.50
No. 56—Glass Oil Tank with Automatic Valve 1.80
Bail and Carrier for Glass Oil Tank ..... .44
No. 81—Regular Kerogas Burner complete with Wick (without burner drum) (prior to 1926) 3.70
‡No. 92—Top Rim Only for 29-2 Burner ..... .70
‡No. 93—Top Rim Only for 39-2 Giant Burner 1.00
‡No. 126—Saddle for Supply Pipe (1926 and later) .... .30
‡No. 812—Saddle on Supply Pipe for Clamp Burner Holder (prior to 1926) ..... .30
‡No. 813—Clamp Burner Holder with Set Screw (prior to 1926) ..... .30

HEAVY DUTY GIANT KEROGAS STOVE

All parts are same as Giant Kerogas with the following exceptions:

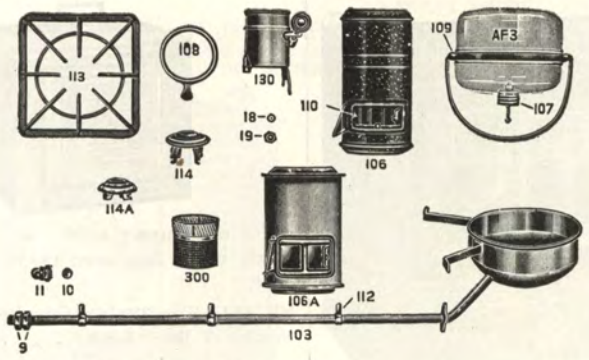
‡No. 48—Supply Pipe with Sub-tank complete for 2 burner stove (prior to 1926) $3.60
Supply Pipe with Sub-tank complete for 3 burner stove (prior to 1926) 4.20
Supply Pipe with Sub-tank complete for 4 burner stove (prior to 1926) 4.80
Supply Pipe with Sub-tank complete for 5 burner stove (prior to 1926) 5.40
‡No. 48-1—Supply Pipe with Sub-tank complete for 2 burner stove (1926 and later) 3.60
Supply Pipe with Sub-tank complete for 3 burner stove (1926 and later) 4.20
Supply Pipe with Sub-tank complete for 4 burner stove (1926 and later) 4.80
Supply Pipe with Sub-tank complete for 5 burner stove (1926 and later) 5.40

Balance of Parts same as Giant Kerogas Stove Parts Above

Items marked thus ‡ not carried in stock, but shipped direct from factory.

OIL STOVE PARTS AND OVENS

LIST OF PARTS FOR PREMIER OIL STOVE



No. 9	—Two Lock Nuts on Supply Pipe, each	$0.20
No. 10	—Washer only for Pipe Cap, each	.20
No. 11	—Pipe Cap and Washer for end of Supply Pipe	.20
No. 18	—Washer for Union Nut Connection and	
No. 19	—Union Nut	.20
No. 101	—Supply Pipe with Sub-tank for 5 burner range	5.40
	Supply Pipe with Sub-tank for 4 burner range	4.60
No. 102	—Supply Pipe with Sub-tank for 2 burner stove	2.60
No. 103	—Supply Pipe with Sub-tank for 3 burner stove	4.00
No. 104	—Supply Pipe with Sub-tank for 4 burner stove	4.60
No. 106	—Burner Drum (Specify Green or Mottled) 10½-in. high	1.80
No. 106A	—Burner Drum (Specify Green or Mottled) 9-in. high	1.80
No. AF3	—Glass Oil Tank without Automatic Valve	1.80
No. 107	—Automatic Valve only for Glass Oil Tank	.32
No. 108	—Burner Collar	.40
No. 109	—Bail and Carrier for Glass Oil Tank	.30
No. 110	—Mica Door and Hinge complete	.40
No. 111	—Mica only, per dozen	.80
No. 112	—Saddle for Supply Pipe	.30
No. 113	—Top Grate	.70
	Round Top Grate	.40
No. 114	—Wick Stop	.34
No. 114A	—Wick Stop	.34
No. 130	—Brass Burner with Wick	3.40
No. 300	—Wick, per dozen	3.90
	Cooking Top for 2 Burner Stove	2.50
	Cooking Top for 3 Burner Stove	2.30
	Cooking Top for 4 Burner Stove	4.00
	Cooking Top Frame only for No. 3560-2560 Range	3.30
	Cooking Top Frame only for No. 3550-2550 Range	3.30
	Cooking Top Frame only for No. 3460-2460 Range	3.20
	Cooking Top Frame only for No. 3450 Range	3.30
	2-Hole Key Plate for Ranges 3560-3460-2560-2460	2.20
	Legs for Stoves, each	.50
	Legs for No. 3500 Range, each	.50
	Solid Reducing Cover	1.00

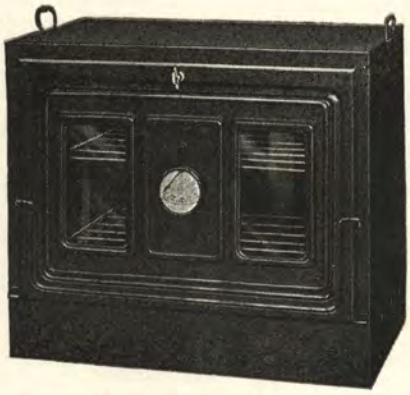
OVENS

FOR OIL, GASOLINE OR GAS STOVES

KEROGAS OVEN

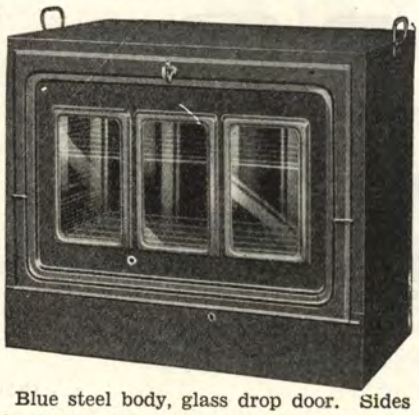
Glass drop door with blue porcelain enameled panel with thermometer fitted, polished blue steel body, roll edge top with aluminum corners, full tin and asbestos lined, mica peep holes with aluminum frames.

No. 667—Size 21x13¼x18⅜ inches. Shipping weight, 29 lbs. Each $8.70



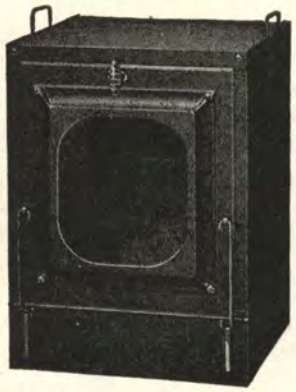
Blue steel body, Glass Drop Door with Thermometer Fitted. Sides Tin Lined; Tin Panel Inside Door. Two Racks, Deflector attached to lower rack. Concealed Door Supports.

No. 2337—Size 20⅛x12¾x16⅞ inches; Ship. wt., each, 16 lbs. Each $4.50



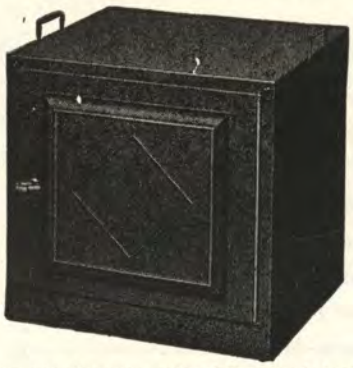
Blue steel body, glass drop door. Sides tin lined; tin panel inside door. Two racks. Deflector attached to lower rack. Concealed door supports.

No. 2332—Size 20⅛x12¾x16⅞ inches. Shipping weight, 16 lbs. Each $3.50



For one burner only; Polished blue steel body; sides Tin Lined. Glass Drop Door. Deflector attached to Lower Rack.

No. 1514—Size, 13⅜x13¼x18⅜ inches; Shipping weight, 13 lbs. Each $4.30



For one burner only; blue steel body; single walls; drop door.

No. 1201—Size 12½x12x12 inches. Ship-

For one burner only. Blue steel body, single walls, two oven racks, glass swing door.

No. 114—Size 12x10x11 inches. Shipping weight, 7 lbs. Each $1.60

GRISWOLD BOLO

This oven is interchangeable from a small oven to a large oven by regulating the heat which is controlled by a flue plate.

Four-fifths of home bakings are small and occupy only half of the total space in a high or large oven, yet to bake a single pie or pan of biscuits you have to heat the entire space in your old style oven. A small baking costs just as much as a large one. But it is not so with a Bolo oven as you can convert it into a large or small oven according to the size of your baking. Change is made in two seconds.

The construction maintains the heat and compels an even distribution of it throughout the oven.

Securely made throughout of high grade steel, with nickel plated trimmings.

No. 180—Drop glass door; height, 18¾ inches; width, 20 inches; depth, 13½ inches; wt., crated, 31 lbs. Each ..$13.00

One in a crate.

OVENS

ELGIN

Ovens That RESIST RUST AND CORROSION

The numbers 60RR and 16RR ovens are made from the nationally known "Toncan Copper Mo-lyb-den-um" oven iron which is one of the most durable metals that science and engineering can produce. These ovens are finished with high heat black baked enamel which will not soften with grease and heat

No. 60RR—Thermo equipped. Outside dimensions 20-in. wide by 18¼-in. high by 13⅜-in. deep. Baking capacity 18-in. wide by 12¾-in. high by 12⅝-in. deep. Made from 26 gauge rust-resisting metal, finished in high heat lustrous black baked enamel. Lined with bright tin and asbestos. Equipped with heavy Alaska cold handles. Shipping weight 27½ lbs. Each $7.50

No. 50W—Thermometer equipped, oversize oven, 19½ inches wide inside to accommodate largest roasters. Outside dimensions, 21½ inches wide by 18¼ inches high by 13⅜ inches deep. White porcelain enamel panel. Lined throughout with bright tin and asbestos. Shipping weight 27 lbs. Each $6.50

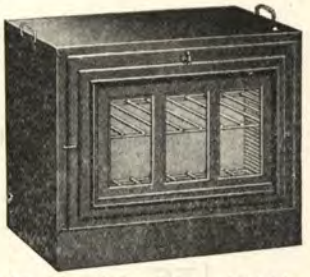
No. 16RR—Outside dimensions 12½-in. wide by 13½-in. high by 13-in. deep. Baking capacity 11-in. wide by 9-in. high by 12½-in. deep. Thermo. Made from 26 gauge rust-resisting metal, finished in high heat lustrous black baked enamel. Lined with bright tin and asbestos. Shipping weight 14 lbs. Each $5.25

No. 22—Dimensions 20-in. wide by 16½-in. high by 13-in. deep. Baking capacity 18-in. wide by 12-in. high by 12½-in. deep. Lined with bright tin and asbestos. Equipped with heavy Alaska cold handles Shipping weight, 22 lbs. Each $3.60

APROVED BY AUTHORITIES

Tested and approved by Good Housekeeping Institute, and also by Today's Housewife.

No. 10—Outside dimensions 12½-in. wide by 12½-in. high by 13-in. deep. Baking capacity 11-in. wide by 9-in. high by 12½-in. deep. Lined with bright tin and asbestos. Equipped with heavy Alaska cold handles. Shipping wt. 12½-lbs. Each $3.00



No. 120—Two-burner. Outside dimensions 20 in. wide, 16½ inches high, 13 inches deep. Door embossed, reinforced, fitted with glass as shown, ends steel lined, fitted with two shelves. Shipping weight, packed 1 in carton, 18 lbs. Each $2.75

No. 102—Outside dimensions 12 in. wide by 11 in. high by 10⅝ in. deep. Door embossed, fitted with glass panel; two shelves, no linings. Weight, packed 1 to a carton, 6 pounds. Each $1.15

No. 104—Same as above except ends steel lined. Shipping weight packed 1 to a carton, 7 lbs. Each $1.35

No. 103—Outside dimensions 12 inches wide by 11 inches high by 10⅝ inches deep. Door solid, steel paneled and embosed; two shelves; no linings. Weight, packed 1 to a carton, 5½ lbs. Each.$1.05

Coleman
TRADE MARK REG.
Radiant Heater

MAKES ITS OWN GAS

USE IT ANY WHERE

The Coleman Radiant Heater is an attractively designed, strongly made, and reasonably priced gas-pressure heating stove. It makes its own gas from any good grade of clean motor gasoline. It can be carried from room to room as needed. It is especially adapted to localities where there is no natural or artificial gas service, or where cheap coal and wood are not available. It is an ideal source of heat for residences, for stores, offices, work shops, warerooms, cafes, etc. And as an auxiliary heater it is a mighty handy help in time of need. This type of heater is rapidly gaining in popularity. The market practically unlimited.

1. **Operation**—Portable. Makes and burns its own gas from untreated gasoline. Produces a fresh, clean, fan-like zone of radiant heat. Instantly regulated.

2. **Instant Gas Starter**—Lights instantly with a match, quickly preheats the generator so that you have a full flow of heat in a minute or less.

3. **Design**—Fluted door; decorative dress guards and column ornaments; new andiron feet; aluminum heat deflector.

4. **Finish**—Heat resisting, non-tarnishing. Frame and body finished in rich bronze-brown baked enamel; top is of brown porcelain enamel.

5. **Removable Fuel Tank**—Capacity 1 gallon. Heavy gauge sheet steel, electrically welded. Built-in pump, combination air-and-fuel gauge, two fuel control valves, and combination drip-pan and baffle-plate.

6. **Generator**—Special Coleman Thermo-Safety type. Automatically controls flow of fuel—prevents flooding. Made of seamless brass tubing.

7. **Improved Burner**—Gray cast iron Hard clay gas tips.

8. **Radiants**—Eight single radiants of best fire clay.

Model No. 5A—Height 23 inches; width 25 inches; depth 12½ inches. **Net weight 31 lbs.; shipping weight 42 lbs.**
Each $38.00

RADIANT HEATERS
COLEMAN

INSTANT GAS MODEL

1. **Instant-Lighting**—Requires no preheating. Just strike a match, turn a valve and it's going. Incorporates the same universal "Instant-Gas" principle now used so successfully on Coleman Lamps and Lanterns, Camp Stoves, Cook Stoves and Self-Heating Irons.

2. **New Safety Lock Valve**—Prevents flooding, controls flow of fuel while lighting.

3. **Portable Type**—Strong convenient handle; easily carried anywhere. No connections or installation necessary.

4. **Operation**—Makes and burns its own gas from any good grade of clean untreated motor gasoline. Instantly regulated to heat desired.

5. **Design and Finish**—Nickel plated steel dress guards. Polished Aluminum heat deflector. Frame and body finished in rich bronze-brown baked enamel. Top of brown porcelain enamel, heat-resisting and non-tarnishing.

6. **Tank and Generator Assembly**—Single unit construction. Perfect combustion and odorless operation. Tank of heavy gauge sheet steel, electrically welded, rust-resisting lining. Easily removable. Fuel capacity 7 pints. Separate air pump. Hand operated filler plug.

7. **Generator**—Made of seamless brass tubing. Cleaning needle automatically cleans gas tip each time valve is opened and closed. Easily removed.

8. **Cast Iron Burner**—Designed for perfect combustion. Hard clay gas tips. Draining well built into casting bottom.

9. **Radiants**—Seven single radiants of best fire clay.

No. 16—Height, 18½ inches; width, 16 inches; depth, 7½ inches; net weight, 20 lbs. Shipping weight, 24 lbs. Each $23.20

WITH MATCH GENERATING PREHEATER

1. **Operation**—Makes and burns its own gas. Produces a clean, invigorating heat—no soot, no smoke, no odor.
2. **Fast Action Match-Generating Preheater**—Hot-blast type. Consists of cast metal cup, control valve and tube vaporizer.
3. **Finish**—Brown Vitreous enamel top, brown baked enamel body and dress guards, bronze colored trimmings, aluminum back and heat deflector.
4. **Burner**—Gray cast iron. Designed for perfect conmbustion. Fitted with non-corrosive clay gas tips.
5. **Generator**—Quick-action, heavy-duty type—made of high-grade seamless brass tubing. Removable—easily cleaned.
6. **Removable Tank**—Capacity one gallon, made of heavy gauge steel, electrically welded and equipped with air gauge, hand operated filler plug, double fuel valve and built-in pump.
7. **Radiants**—Eight single colored radiants, made of best grade of fire-clay. Colored to harmonize with heater finish. Extra size for full heat.

Model No. 7—Height, 22½ inches; width, 22½ inches; depth, 9 inches; net weight, 28 pounds. Shipping weight, 40 pounds. Each $25.00

KEROGAS DUPLEX HEATER

No. 622 Kerogas Duplex Heater

Two Giant Wickless Oil Burners.

Burners generate gas economically from kerosene oil.

Quick, clear flame insures steady heat.

Used anywhere—no flue connections required.

Dimensions

No. 622 Kerogas Duplex Heater

Length 21¼ inch.

Depth 11¾ inch.

Total Height 31½ inch.

Approx. Ship weight 85 lbs.

Circulates Healthful Humidified Heat with Remarkable Economy in fuel use.

This attractive heater offers quick, powerful heating service at minimum cost.

Cold air is taken in at the bottom of the Kerogas Duplex Heater—quickly heated—and passes out through the top openings at the front and sides. This heat rises into the room as cold air is constantly taken in at the bottom, an effective circulation of humidified heat is maintained. Radiant heat is reflected forward and downward from the body of the heater, providing the dual advantages of circulating and radiant heat.

As the Kerogas Duplex Heater requires no flue connection, it can easily be placed in any location. Two giant wickless burners provide steady heat. An indicator panel with designations for "Light", "High Fire" and "Out" makes operation easy. Two gallon glass oil tank with automatic oil feed. Humidifier tank insures properly moistened, humidified heat.

The Kerogas Duplex Heater is beautifully porcelain enameled in furniture finish with Italian Marble finish top, an agreeable color scheme that harmonizes with surroundings. Attractive cabinet design makes this Kerogas Duplex Heater a pleasing furnishing for any room.

KEROGAS DUPLEX HEATER

Circulates clean, comforting heat.

Two Giant Wickless Oil Burners provide rapid and economical cooking service.

Simple to light, operate and extinguish.

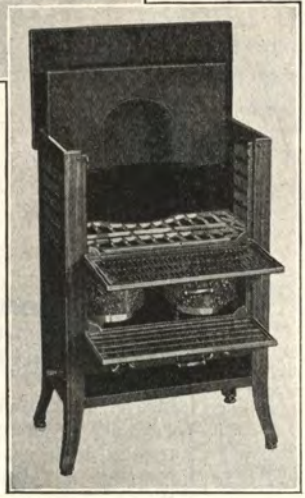
Open the Kerogas Duplex Heater by raising the top and lowering the front door—and the cooking grate over the burners is exposed, thus providing the additional service of a fast cooking, dependable oil stove.

The two powerful, giant wickless burners provide a clean, intense blue flame that does cooking in quickest time.

The top, when raised, serves as a splash back and the upper front door drops to a horizontal position.

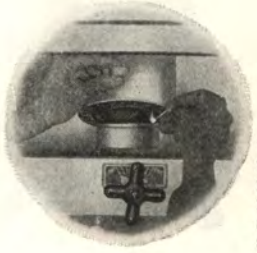
The heavy, one-piece iron grate readily accommodates several utensils. A lower drop door gives quick, convenient access to the burners.

By serving the dual purpose of both a heater and cooker, the Kerogas Duplex Heater is doubly useful. Its operation is simple, certain and dependable. Uses ordinary kerosene oil—the most economical fuel.



No. 622—Kerogas Duplex Heater

With the cover open and front door lowered the heater is converted into a two-burner oil stove with two powerful giant burners under the cooking grate.

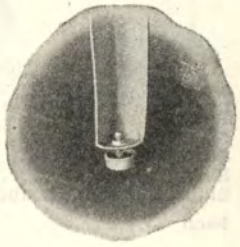


Wickless Oil Burner

Just a turn of the handle and the burner is ready to light. The flame is brought up under the cooking vessel producing intense cooking heat. Extremely simple in construction without complicated mechanism.

Leg Leveler

One is attached to each leg. Permits easy leveling. Screwed up or down to lower or raise any corner of the Duplex Heater to level.



OIL HEATERS

BON AMI

Decided improvements in construction make Bon Ami Oil Heaters the outstanding heaters of this type today.

Notice the tray that is permanently attached to the legs; see the evergrip, gravity catch that makes for positive operation; note, too, the many betterments in the one-piece brass burner, which insures unequalled service, fuel economy and years of satisfying use.

One-Piece Genuine Brass Burner—Every Bon Ami Oil Heater is equipped with a one-piece, genuine solid brass burner—Double Hot Blast type. It is patented. It is rust-proof, meaning perfect operation at all times. Being drawn out of one piece of brass, there are no seams, a safeguard against leaking.

More Heat—You get more heat from Bon Ami Oil Heaters, due to perfect combustion and the burner's Double Hot Blast construction.

Powerful, Clean—A perfect white heat, the hottest known, is provided by the burner in these heaters. The heat is clean—there is no soot nor smoke.

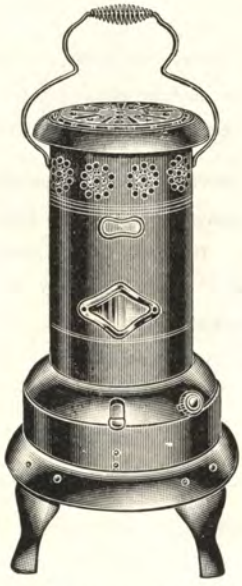
Construction—Bon Ami Oil Heaters are made of high grade, blue steel. Every part is well made, securely bolted, assuring rigid construction throughout.

Another point in these heaters is the new, scientifically constructed catch. It operates on the gravity principle, always catching the base no matter how slowly the top is lowered. It is a "Safety First" feature that has the approval of the National Board of Fire Underwriters.

Bon Ami Oil Heaters also are equipped with a tray between the legs, which is a sanitary feature. This tray is permanently fastened and will not drop off when the heater is carried. It is a safeguard against soiling floors and legs.

Blue Steel Body. Black Japanned base, center ring, top and feet. Black Tray.

No.	30K
Size of wick, inches	12
Capacity of Fount, qts.	4
Height, inches	24
Shipping weight, lbs.	22
Each	$10.80



Blue steel body with black japanned base, center ring, top and feet. Capacity of Leaded Steel Fount, 3 quarts. No tray.

No.	118X
Size of wick, inches	9
Height, inches	24
Shipping weight, pounds	21
Each	$8.50

Blue Steel Body with Black Japanned Base. Nickel Center Ring, Top and Feet. Black Tray.

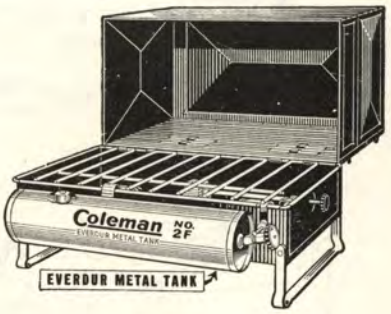
No.	75K
Size of wick, inches	15
Capacity of Fount, quarts	5
Height, inches	26
Shipping wt., lbs.	25
Each	$14.30

The Coleman Camp Stove

The most complete Camp Stove made . . . A fine general utility stove for use in cabins, summer kitchens, small apartments and light housekeeping rooms. Lights instantly . . . no preheating . . . cooks like gas. Equipped with "Everdur" Fuel Tank made of a patented metal which combines the strength of steel and the durability of copper; will never corrode or rust. Electrically welded seams. Has built-in pump; hand-operated filler plug.

Folding built-in oven also can be used as drum-heater and warming cabinet. Long-life wind-proof cast iron burners; one-piece steel wire hinged grate. Long-life alloy generator resists carbon formation; has combination regulating valve and gas-tip cleaner. Stove folds up like a suit case, with everything inside. Strongly constructed of 24-gauge steel. Body handsomely finished in maroon-brown baked enamel; tank in bronze lacquer; nickel plated steel legs . . . a beautiful combination.

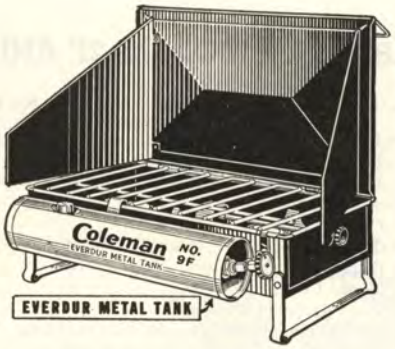
Model No. 2F—Shipping weight, 20 lbs. Each.....$12.45



A popular new low-priced model with genuine Coleman quality and Coleman operating efficiency. Supplies the demand for a compact serviceable stove at low cost. It is designed and built especially for use on picnics, week-end outings, short vacation trips. A sturdy stove for use on camping tours.

Has the new "Everdur" Metal Fuel Tank which is rust and corrosion-proof. Tank may be removed without disturbing utensils on cooking surface. Windshield protects flame. Instant lighting. Body finished in maroon-brown baked enamel; tank in bronze lacquer.

Model No. 6F—Shipping weight, 12 lbs. Each.....$5.95



This strongly built, thoroughly reliable, popular priced camp stove is a favorite with sportsmen and tourists everywhere. Has all the superior Coleman features of Model No. 2F except that it has no oven, but is equipped with windshield. Has "Everdur" Metal Fuel Tank which will never rust or corrode, finished in bronze. Lights instantly, cooks like gas.

Model No. 9F has body finished in maroon-brown baked enamel; tank in bronze lacquer; nickel plate legs. Folds up like a suit case.

Model No. 9F—Shipping weight, 17 lbs. Each.....$9.45

COLEMAN No. 10 HIGH STAND FOR ALL CAMP STOVES

Fits all Coleman models and practically all other camp stoves. All steel construction. Folds compactly to size 2½x2x26½ inches. When set up, all folding joints lock automatically, making a rigid high stand of proper cooking height. A high stand should be sold with every camp stove. Finished in attractive maroon-brown enamel.

Coleman No. 10—Shipping weight, 8 lbs. Each $1.90

Packed one in a carton. Shipped extra only as ordered.

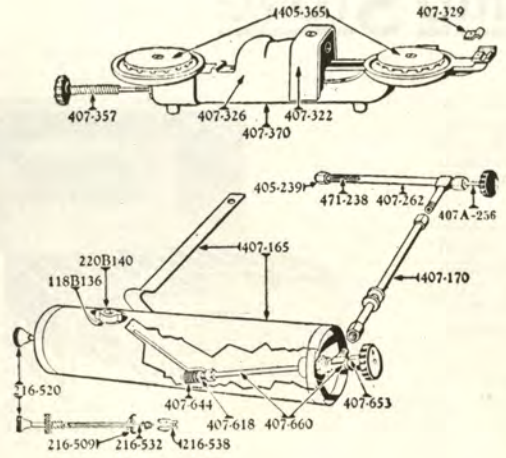
COLEMAN JUNIOR LANTERN MODEL No. 242

Single mantle type. Lights instantly and produces up to 150 candlepower brilliance. A favorite with sportsmen, tourists, campers. Fuel capacity 1⅓ pints . . . enough for 7 to 9 hours' service. Equipped with built-in pump, hand-operated filler plug, Pyrex glass globe. Porcelain enameled ventilator top; nickel plated brass fount.

Model No. 242—Height 11½ inches; shipping weight 4 lbs. Each.....$5.95

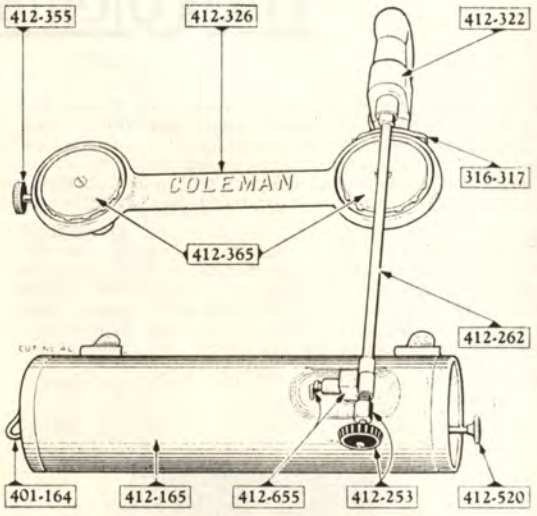
Packed one in carton complete with globe and mantle.

PARTS FOR COLEMAN CAMP STOVES



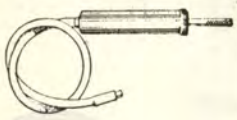
PARTS FOR MODELS 2F AND 9F

Parts No.	Name of Part	Net Retail Price
118 B 136	Filler Plug Gasket	2 for $ .06
216 - 509	Pump Leather	2 for .09
216 - 520	Pump Plunger Complete (Less Air Stem)	.60
216 - 532	Air Stem	.15
216 - 538	Check Valve	.15
405 - 239	Gas Tip & Holder (Gas Tip Marked "B")	.15
405 - 365	Burner Cap (2-Piece, Bolt & Nut)	.30
407 - 165	Tank Complete	4.50
407 - 170	Fuel Tube (5⅝" long)	.60
407 A 256	Generator Regulating Stem Complete	.45
407 - 262	Generator (Gas Tip Marked "B")	1.20
407 - 326	Burner Manifold	1.80
407 - 357	Auxiliary Burner Valve Stem Complete	.75
407 - 370	Burner Complete	3.00
407 - 618	Fuel Tip (Marked "AE")	.06
407 - 644	Fuel Tip Protector & Screen	.15
407 - 660	Fuel Valve Complete	1.50
410 - 322	Mixing Chamber Shield	.15
471 - 238	Cleaning Needle & Holder	2 for .09
479 - 140	Filler Plug Complete	.48



PARTS FOR MODEL 6F

Parts No.	Name of Part	Net Retail Price
104 - 136	Filler Plug Gasket	2 for $ .06
223 - 538	Check Valve	.30
412 - 353	Tip Cleaner Stem Complete	.30
242 - 518	Pump Leather Assembly	.15
316 - 317	Gasket	.03
401 - 164	Filler Plug Complete	.36
412 - 165	Tank Complete (with Fittings) (Less Valve & Generator)	3.60
412 - 207	Valve Body	.45
412 - 212	Generator Tube	.36
412 - 219	Generator Filler Coil	.09
412 - 218	Gas Tip (Marked "AK")	.12
412 - 251	Cleaner Rod & Needle	.24
412 - 253	Valve Stem (Less Cleaning Needle)	.36
412 - 262	Generator Complete (with Cleaning Needle) (Gas Tip Marked "AK")	.75
412 - 322	Burner Mixing Chamber	.45
412 - 326	Burner Manifold (Casting Only)	.75
412 - 355	Auxiliary Valve Complete	.36
412 - 365	Burner Cap Complete	.24
412 - 520	Pump Plunger Complete	.45
412 - 640	Eccentric Block & Needle	.09
412 - 646	Fuel & Air Tubes with Fuel Tip (Marked "O")	.24
412 - 655	Instant Lighting Valve Complete (Less Generater & Valve Stem)	.75



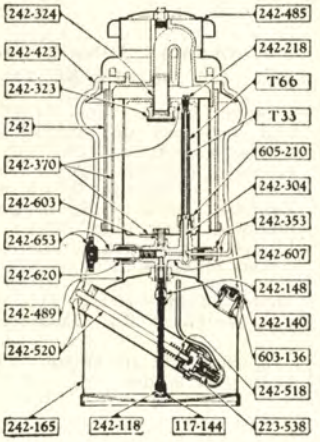
"No. 630"

FILLING SIPHON

Has nickel plated brass barrel and 34-inch hose with wire strainer. Packed one in a carton. Shipping Weight, 5 ounces.

U. S. Retail Price, each ...$ .60

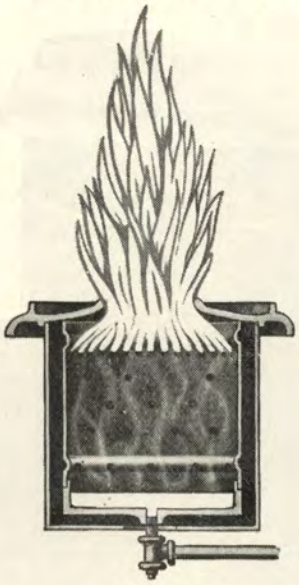
PARTS FOR MODEL No. 242 JUNIOR INSTANT LITE LANTERN



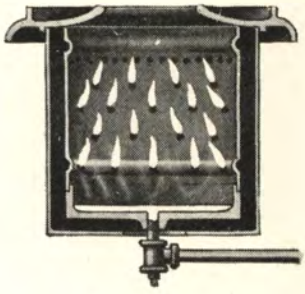
Parts No.	Name of Part	Net Retail Price
T33	Generator Cleaning Needle (242-238)	$ .15
T66	Generator (Gas Tip Marked "6") (242-299)	.35
242	Pyrex Glass Globe	.80
117 - 144	Tip Protector & Screen	.15
223 - 538	Pump Check Valve	.30
242 - 118	Fuel Tip (Marked "5")	.06
242 - 140	Filler Plug Complete	.30
242 - 148	Fuel & Air Wire Complete (Fuel Tip Marked "5")	.30
242 - 165	Fount Complete	3.00
242 - 218	Gas Tip (Marked "6")	.06
242 - 304	Tip Cleaner Eccentric Block	.06
242 - 323	Burner Cap & Screen	.30
242 - 324	Burner Tube	.15
242 - 353	Tip Cleaner Stem Complete	.30
242 - 370	Frame & Burner Complete	1.50
242 - 423	Bail	.15
242 - 485	Ventilator	.75
242 - 489	Globe Base Rest	.15
242 - 518	Pump Leather Assembly	.15
242 - 520	Pump Plunger Complete	.45
242 - 603	Frame to Valve Connecting Stud	.06
242 - 607	Valve Body	.60
242 - 620	Valve Stem Packing (Ambler)	.03
242 - 653	Valve Stem Complete	.30
603 - 136	Filler Plug Gasket	2 for .06
605 - 210	Jamb Nut	.03

OIL BURNER UNITS

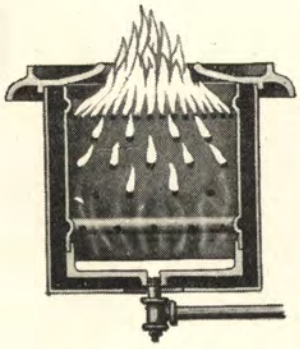
SILENT SIOUX



High Flame



Low Flame



Medium Flame

This type of burner is admirably adapted for room heater as well as small warm air furnace work. They can also be used in water heaters, ranges, incinerators, and other similar applications. The WR and CR units burn with a transparent flame.

The oil is vaporized in a pool in the bottom of burner, thus forming a relatively cool vapor. This vapor rises and is mixed on its way up by a very restricted amount of air admitted through small perforations in the sidewall. When sufficient air has been mixed with the vapor, combustion takes place. At no time does the oil burn right off the bottom of burner. As the air is admitted through very small perforates, the air velocity, and therefore the flame velocity, is very low and results in a very quiet flame.

Color of Flame—On anything but the low fire the unit operates with a clean orange and yellow flame.

Kind of Fuel—This unit requires water clear No. 1 Furnace Oil or distillate or kerosene. Dut to high efficiency, they are very economical in their operation.

Efficiency—On actual test these units show an efficiency of over 75 per cent. This is above the average burner unit.

Construction—The top ring and bottom are made of cast iron. The perforated side wall is made of rust and heat resisting sheet steel. The casing around the burner is made of rust resisting Armco. The entire unit is electrically welded.

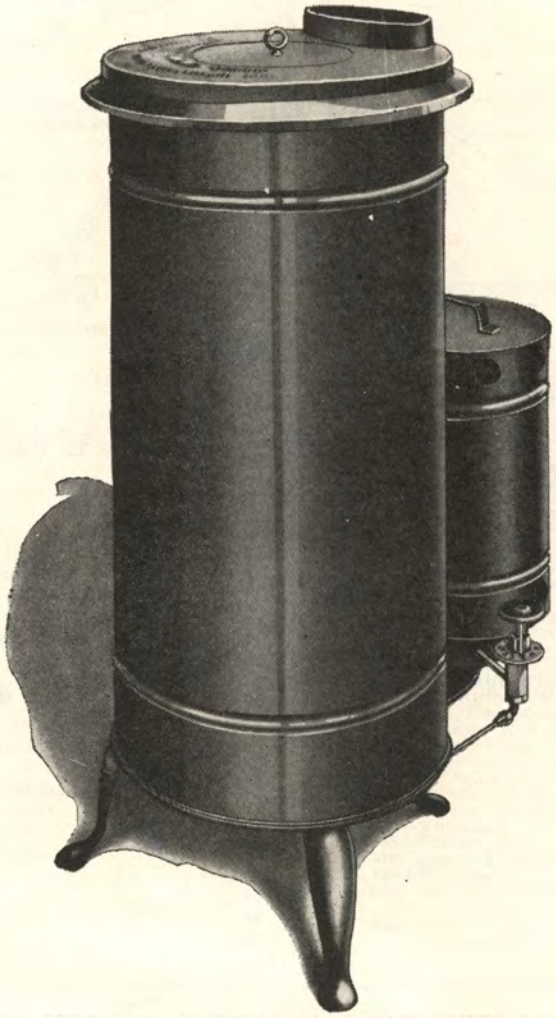
Special Silent Sioux Features—These units come equipped with a removable feature that allows the removal of the entire unit by simply loosening the oil feed line below the burner and by giving the burner assembly a twist to the right or left. This is a very valuable feature.

Another exclusive feature of the Silent Sioux unit is the second secondary air inlet. This prevents the flame from impinging on the top ring of burner, thereby preventing carbon formation and excessive heating of this ring, which would ordinarily reduce the life of the burner. Furthermore, this feature gives each unit about double the range in capacity of the ordinary burner.

OIL BURNING ROOM HEATER

SILENT SIOUX

Model "F" Room or Garage Heater



CORRECTLY DESIGNED—SCIENTIFICALLY BUILT

BURNS 38-40 DISTILLATE OR FURNACE OIL

This is the lowest price oil burning room heater of this capacity on the market. It is a dependable, economical and efficient heater for all places of 1,500 cubic feet and less. It burns the cheaper fuel oils and does so with an over-all efficiency of over 60%. This is above the average. Equipped with draft regulator.

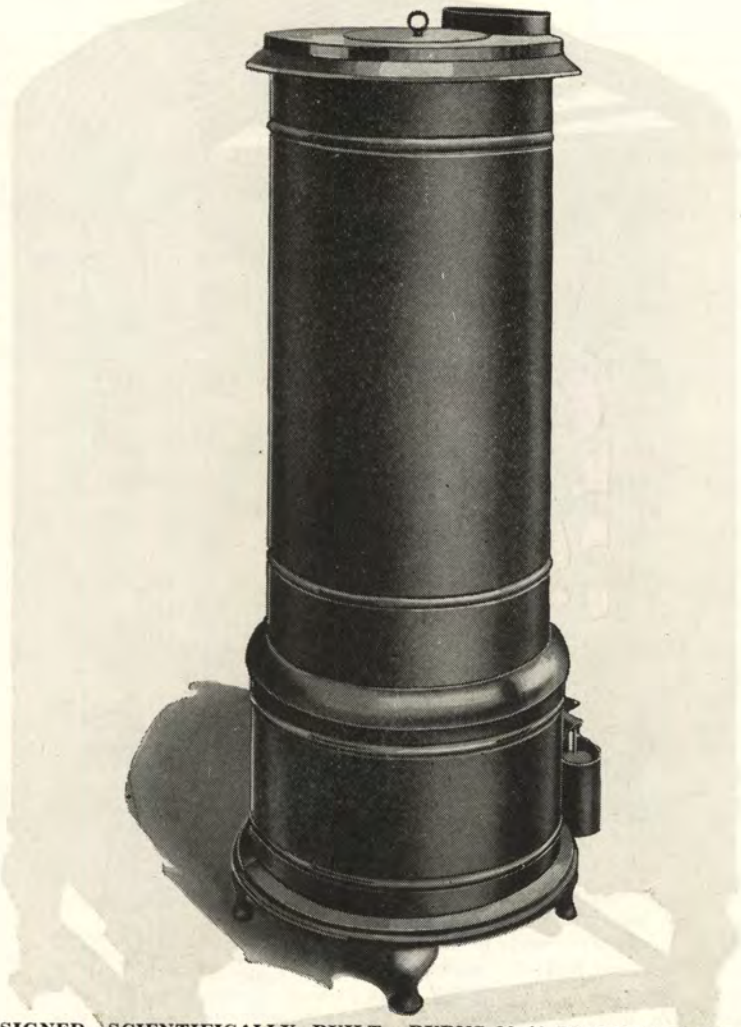
The heater is made of heavy rust resisting steel and is built for a lifetime of service. It is finished in black. The fuel tank is made removable for easy filling. This is a remarkable value. Give it a trial.

MODEL F SPECIFICATIONS

Height, inches	36
Diameter of drum, inches	13
Weight (crated) pounds	85
Material, gauge steel	20
Fuel, distillate	38-40
Heating capacity, BTU an hour	20,000
Heating capacity, cubic feet	3,000
Oil consumption in 24 hours	0.6 to 5.5 gals.
Stack size, inches	5
Fuel tank capacity, gallons	2
Draft required	.07
Model F Room Heater—Each	$39.50
For Tank Control (shipped from factory only) add	10.00

OIL BURNING ROOM HEATER

SILENT SIOUX
MODEL "D" ROOM HEATER



CORRECTLY DESIGNED—SCIENTIFICALLY BUILT BURNS 38-40 DISTILLATE OR FURNACE OIL

A room heater with the Silent Sioux Type C Burner incorporated that meets the universal requirements in economical, convenient and modern heat in the non-modern home, office, or business house. This burner operates with a yellow and orange flame on medium or high and is constructed with a cast iron bottom, without wicks or any moving parts. It is fool-proof and simple. Nothing can get out of order.

The heater is constructed of 20-gauge Armco heat and rust resisting iron, finished in black, and makes a very attractive and neat installation in any home or business within its capacity. This room heater assures clean and healthful heat at all times.

A draft regulator is furnished to obtain the best results. This heater can be furnished with a constant level control fitted with connection for ¼-inch copper tubing for outside fuel tank, or with two removable fuel tanks attached to back of heater.

MODEL D SPECIFICATIONS

Height, inches	41
Diameter of drum, inches	13½
Weight (crated) pounds	95
Material, gauge steel	20
Fuel, distillate	38-40
Heating capacity, BTU an hour	40,000
Heating capacity, cubic feet	4,000 to 5,000
Oil consumption in 24 hours	1½ to 12 gals.
Stack size, inches	5
Fuel tank capacity (combined 2 tanks), gallons	4
Draft required, inches	.05
Model D Room Heater—Each	$59.00
For Tank Control (shipped from factory only) add	10.00

Unless otherwise specified, heater will be shipped with attached tanks and a draft regulator attached to a taper stove pipe connection for 6-inch stack.

HOT-BLAST OIL-BURNING SUPER-FURNACE
COLONEL WASHINGTON

Burns 38-40 distillate or Furnace Oil. Two-Tone Maple Trim on Burl Walnut. Scientifically built for double heat capacity. Correctly designed with extra large radiation surface.

Nos.	257	235	213
Height of Cabinet, inches	44	38	42
Width of Cabinet, inches	25	21	22
Depth of Cabinet, inches	19	16	22
Floor space with oil res., ins.	25x29	21x27	18x25
Distance from floor to center of Pipe Collar, ins.	35	30	33
Pipe Collar, ins.	6	6	6
Rating, BTU per hour	70,000 BTU	50,000 BTU	30,000 BTU
Ap. hourly Oil Con., Max.	4 Pints	3 Pints	2 Pints
	5 to 7 Rooms	3 to 5 Rooms	1 to 3 Rooms
Residence Heating	5,000-7,000 Cubic Feet	3,000-5,000 Cubic Feet	1,000-3,000 Cubic Feet
One Large Room, Exposed	7,500-10,500 Cubic Feet	4,500-7,500 Cubic Feet	1,500-4,500 Cubic Feet
One Large Room, Unexposed	12,000-16,800 Cubic Feet	7,200-12,000 Cubic Feet	2,000-6,000 Cubic Feet
Shipping weight crated, lbs.	300	250	225
Each	$139.00	$115.00	$85.00

HOT-BLAST OIL-BURNING SUPER-FURNACE
COLONEL WASHINGTON

Scientifically Built for Double-Heat Capacity

The inner heating units are built with extra large heating surface so that they are vastly superior in capacity. This construction insures two or three times the radiation area of the ordinary heater of the same size. The increased radiation area gives increased heating capacity. Each model is equipped with three large four-inch straight-line air ducts to provide the greatest amount of rubbing surface to extract the heat. These give instantaneous heat. There is no coal to carry, no ashes to take out, no kindling to provide and no dirt in the house. They save money, give controlled heat, and save time, and cleaning of rugs, curtains and draperies. The only attention required is filling of the oil reservoir once daily.

Double-Length Air Tubes

The air tubes are double length, extending all the way from the bottom to the top of the heating unit, thus providing a longer air travel. They extend down behind the flame where they receive a direct intense radiated heat. The straight line air ducts insure more rapid circulation of warm, moist air throughout the house. The main top of the heating unit and the main bottom of the heating unit are constructed of cast-iron to insure rigidity, and to insure long and satisfactory heating service combined with efficient and economical operation. The air tubes and the main body of the heating unit are constructed of extra heavy, rust-resisting, copper-bearing steel for lifetime service. There is no installation expense These furnaces come complete, ready to install, and all that it is necessary to do is to have the furnace set up and connected to the chimney flue. They are absolutely safe, the burner cannot be flooded and they are equipped with every positive safety device.

Burl-Walnut Cabinets, Two-Tone Maple Trim

Unusual beauty of design has been obtained by the use of a beautiful two-tone finish in burl-walnut with maple trim. The cabinets are patterned after modern furniture with attractive curved top and with console base attractively underbraced.

Automatic Room Temperature Control

An automatic room temperature control can be furnished at slight additional charge, when so ordered. This device will save its cost in fuel in a remarkably short time. It plugs into any convenient light socket and is entirely automatic in operation. This temperature control automatically increases the flow of oil to the burner, thereby increasing the fire when the room temperature drops below seventy degrees. It automatically turns the oil down to a slow flow and reduces the fire to the low flame when the room temperature rises above the point.

Draft Control

Each furnace is equipped with a Draft Regulator which insures correct draft control, a necessary feature with all oil-burning furnaces. This accessory must be located in the stove pipe at least one joint beyond the pipe collar.

Constant-Level Oil-Control Valve

These furnaces are equipped with a patented constant-level oil-control valve into which is built a metering valve for proper control of the flow of oil to the burner. The constant level valve insures a proper level of oil in the burner for perfect combustion. The metering valve permits control of the fire at any point desired from the lowest to the highest flame. This constant level valve has been approved by Underwriters' Laboratories.

OIL SUPPLY

These furnaces are regularly equipped with a seven-gallon oil supply tank built on to the back of the cabinet. They can be furnished without this oil reservoir arranged for an outside oil supply tank of larger capacity such as fifty-gallon drum which can be connected by means of a pipe from outside the house underneath the floor to the constant level valve on the back of the furnace. When such a tank is used, it must be located so the minimum oil level is above the constant level valve on the circulating heater in order that the oil will flow by gravity from the supply tank outside the house to the constant level valve on the furnace. These tanks must also be located so that the maximum oil level is not more than ten feet above the constant level valve. These furnaces are designed for use with No. 1 furnace oil or with clear or light straw colored 38/40 distillate. Kerosene may be used fuel, with excellent results.

BURNER

The patented burner used in these circulating heaters will operate at low flame. The metering valve which regulates the flow of oil from the supply tank to the burner is graduated in ten divisions. The low flame is obtained with the metering valve opened to a point between positions 2 and 5 on the dial. From points 6 to 9 on the dial, the medium flames is obtained. The high flame is obtainable with the metering valve above point 9 on the dial to the full open position. Always remember that a kerosene lamp burns with a clear bright flame if the wick is not turned down below a certain low point or if the wick is not turned up beyond a certain high point. These furnaces operate in exactly the same way excepting that they have no wicks whatsoever. The burners are constructed with a cast-iron bottom without any wicks or without any moving parts. They are fool-proof and simple, and there is nothing to get out of order. They operate best between certain low and high points. To find the lowest point for most efficient operation, turn the metering valve down one number at a time with an interval of from five to ten minutes between each adjustment until the flame burns just above the bottom of the burner with a blue tinge and without smoke. This is the lowest point for efficient operation and will occur at setting between point 2 and point 5 on the dial of the metering valve. To find the highest flame point, without smoking, turn the metering valve up in the same manner one step at a time until the flame rises to the top of the stove and start smoking. These valves are adjusted before leaving the factory so that the wide-open position is this point, but under certain conditions they will vary somewhat and the maximum operating position may be somewhere between point 9 on the dial through point 10 to 1, 2, or 3 points past point 10 on the dial. In determining this highest point, open the valve until the flame starts smoking and turn it down 1 or 2 points to a high yellow flame when no smoke is observed. The high and the low points for most efficient operation should be determined by the owner of the heater after it is installed and the metering valve should then be used only to control the flame between the high and low points and the shut-off valve should then be used for turning the burner off.

FURNACE BURNER

SILENT SIOUX

JUNIOR

The Junior furnace burner is an ideal burner for all small and medium sized homes (5 to 7 rooms) where a good chimney draft is available. Its unusual quiet operation makes it especially suited for warm air furnaces of every type. It will work equally well in warm air furnaces and hot water heating systems. It is not intended for vapor and steam heating systems.

LOW COST INSTALLATION

This burner is priced low especially so that all small homes may enjoy the convenience and comforts of oil heat. Do not think that, because of its low cost, you will not obtain the same high efficiencies obtained in higher priced units. Burner as shipped includes burner complete with constant level control. Thermostatic equipment can be furnished at slight additional cost. The only additional materials necessary to complete the installation is the oil tank with piping, a few ordinary house brick and a little plaster. Any ordinary mechanic can make the installation.

QUIET IN OPERATION

The burner is unusually quiet in operation. There is no combustion noise of any kind; in fact, it is as quiet as coal.

OPERATION MANUAL OR AUTOMATIC

This burner is regularly equipped with a constant level control for hand operation. It can also be furnished with room thermostat to operate automatically at a slight additional cost. Where poor draft is encountered a blower attachment can also be furnished.

BURNER UNIT

The burner unit is the same Type C unit we have furnished in the past to other heater manufacturers, and thousands of them are in use all over the country. They are quiet as coal and very simple in construction. There are no wicks, nothing to burn out, nothing to fill up with soot. The unit is easily removed.

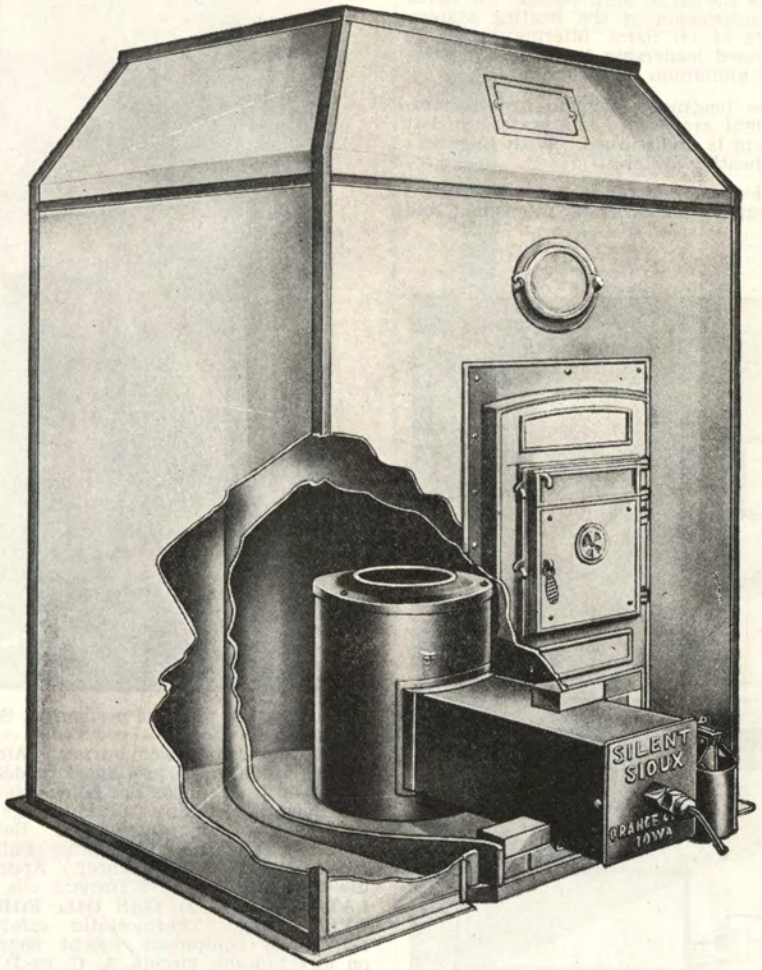
SPECIFICATIONS

Burner unit	Type C
Overall height	14½ inches
Diameter of drum	11½ inches
Weight crated	35 lbs.
Material of drum	20 gauge steel
Fuel recommended	38-40 clear distillate
Oil Consumption per 24 hours	2.5 to 12 gallons
Rating BTU per hour (100%)	73,000 BTU
Draft required	.07 inches

With Manual Control—Each	$59.00
‡**With Electrical Thermostatic Control—Each**	110.00

FURNACE BURNER

SILENT SIOUX



Equally suitable for warm air and hot water installations. Ideal for all 5 to 7 room homes. Burns 38-40 distillate or furnace oil. Natural draft manual or automatic thermostatic controlled.

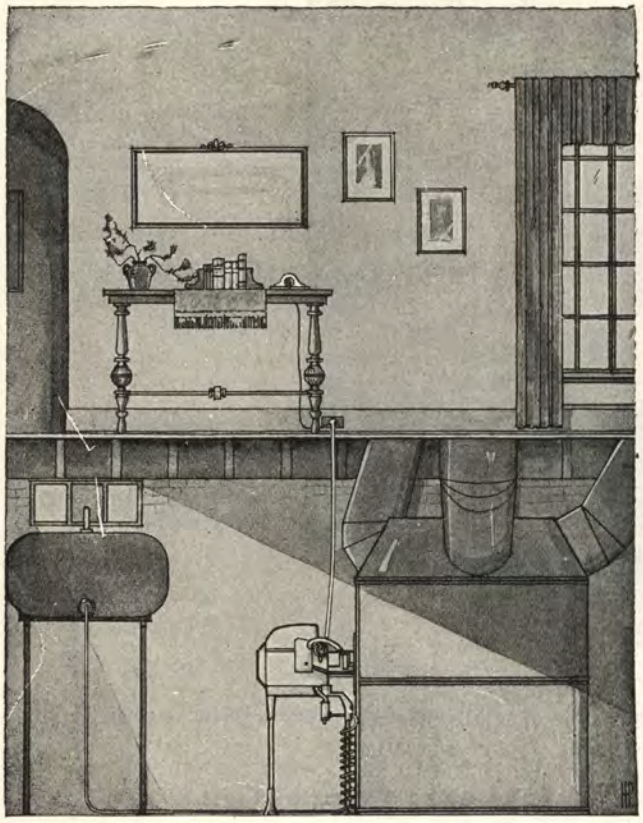
WHISPERING
SUMMERHEAT
Automatic ELECTRIC Oil Burner

INSTALL AS YOU WOULD AN ELECTRIC REFRIGERATOR, A GAS RANGE OR A RADIO. SIMPLY PLUG IT IN, A MATTER OF MINUTES AT A REVOLUTIONARY PRICE.

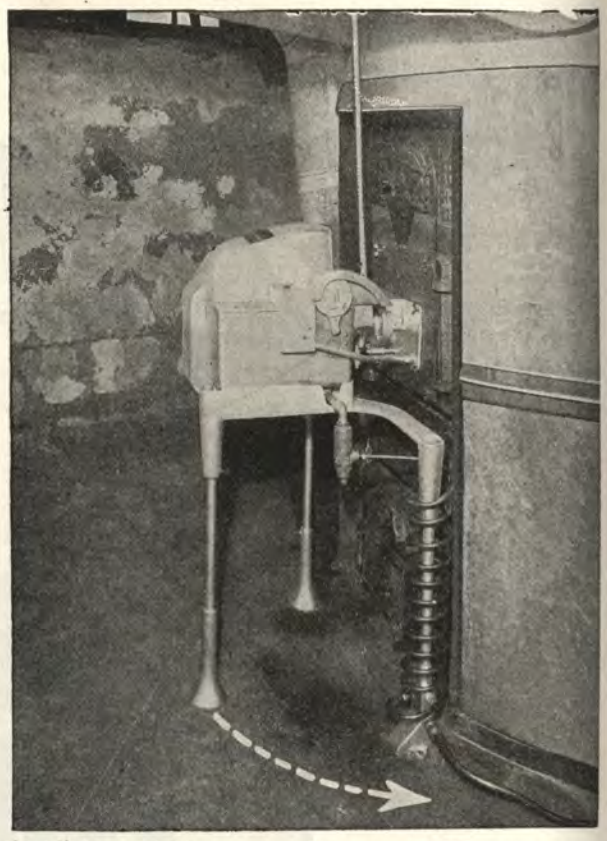
Summerheat is entirely quiet in its operation—it is an electric power burner but without pump pressure or complicated valves and diaphrams and therefore is good for years of service due to minimum wear. The flame is actually filtered through a special Silicon Steel oil-cooled screen which clears the flame to a sun-like brilliance and causes the oil to burn outside the flame projector and in complete suspension in the heating system. This exclusive new principle of oil flame filtering brings to "Summerheat" the unquestioned leadership in Modern domestic Oil Burner design. Full aluminum construction.

You do not dismantle the heating system to install Summerheat—no bricks nor cement are used. The grates are left in and the regular coal system is undisturbed. With Summerheat you have two separate heating systems.

The exclusive Summerheat flame control produces intensified heat the same as the cold control dial produces intensified cold in the modern refrigerator.



Showing typical Installation of the Summerheat Portable oil Burning System.



Showing the portable permanent Summerheat Burner Attached to the furnace.

Full capacity power burner. Air muffled with whispering flame. Made in one size and 2 models with capacity range from 1 pint up to 4 gallons per hour. New filtered flame is deflected 30° downward taking full advantage of all heating surfaces. Low pressure air atomization. Ball bearing motor and fan unit. (Variable speed automatic—Full floated spring supported—felt sealed.) Radio silencer. Approved by Underwriters' for use with Nos. 1 and 2 furnace oils. **WE SUGGEST DISTILLATE OR (No. 2) GAS OIL, FOR MOST SATISFACTORY OPERATION** Thermostatic safety control built integral. No outside equipment except thermostat. Burner operates on any 110-volt circuit, A. C. or D. C. Average current consumption approximately 100 watts. Mounts through feed door. Heating plant undisturbed. (No brack or refractory used.) Leaves coal heating system for use as a garbage incinerator and rubbish burning. Adds second complete and independent heating system to premises—thus relieving dealer of obligation to service immediately in case of burner failure during severe weather. One size fits all types and sizes of home heating plants—Warm air—Steam—Water—Vapor. Burner furnished complete with room thermostat. Furnished in high-low automatic models.

Model ME—Approved incandescent Hot-wire 110 volts A.C. or D.C. electric ignition for initial starting—Completely automatic high-low thereafter. Weight each 155 pounds. Each $325.00

Model MM—Equipped with manual ignition for the initial starting. Completely automatic high-low thereafter. Weight each 155 pounds. Each $295.00

Portable Model for use as a Demonstrator—Equipped with two 5 gallon bottle oil containers. A complete oil burning system in one unit. Weight each, 230 pounds. Each..... $395.00

Secondary or Limit Control—Necessary on Steam—Vapor or Hot water boilers. Optional on warm air furnaces. Specify type wanted when ordering. Furnished with cord and plug same as the portable room thermostat. Simply plug into receptacle on burner. No special wiring. Each $20.00

OIL BURNERS

SUMMERHEAT

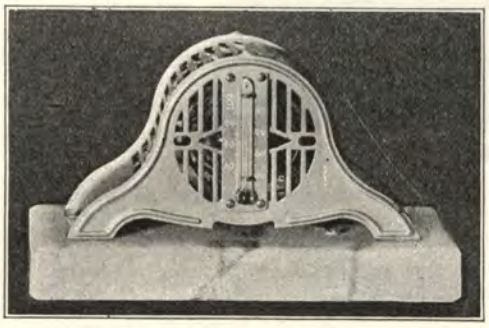
A FREE DEMONSTRATION IN YOUR PROSPECTS OWN HEATING PLANT IN FIVE MINUTES

NO FURNACE ALTERATIONS

This is the portable demonstrating unit with which the dealer makes free home demonstrations.

It will pay for itself many times in additional sales. A complete portable oil burning system in one handsome aluminum unit. Oil storage capacity sufficient for up to 72 hours operation depending on individual heating requirements. May be used as permanent DeLuxe installation by attaching suitable storage tank. Furnished with Model ME burner unit including portable thermostat and complete plug in wiring system.

PORTABLE THERMOSTAT



The exclusive Summerheat Portable Thermostat-sensitive to 1 degree temperature change—provides the accuracy of automatic control for which the Summerheat Oil Burner is famous. Simply plug it in. Not necessary to deface walls to install. Completely portable.

A LIFETIME INVESTMENT

5-YEAR REHABILITATION BOND

SUMMERHEAT AUTOMATIC OIL BURNER
(NEW IMPROVED SERIES)

Five Year Rehabilitation Bond

This certifies that SUMMERHEAT No._____owned by and installed in the property of_____ purchased from_____ located at_____ on_____ is free from defects of material or workmanship, and is so guaranteed for one year from date of sale, and further, within five years from date of sale, upon demand, and on delivery F. O. B. its factory, The Summerheat Corporation of America, agrees to thoroughly rebuild (replace all worn or burned parts, overhaul and place in condition substantially as good as new for all practical purposes) and deliver to the owner, F. O. B. factory, any model of the (new improved series) Summerheat upon payment of $35.00 for models "T" and "S" and $25.00 for Type "Ideal."

SUMMERHEAT

SUMMERHEAT CORPORATION OF AMERICA
DOWAGIAC, MICHIGAN

Rehabilitation cost on the new portable units Models ME and MM $25.00 (see bond guarantee.)

Summerheat is designed to mount through the feed door without furnace alterations and is so approved by the Underwriters' Laboratories.

Capacity average—equivalent to 25 tons or less of coal or coke for heating season under normal conditions. Average cost of operation with oil costing 8 cents per gallon comparable to heating with coal or coke at $10.00 per ton.

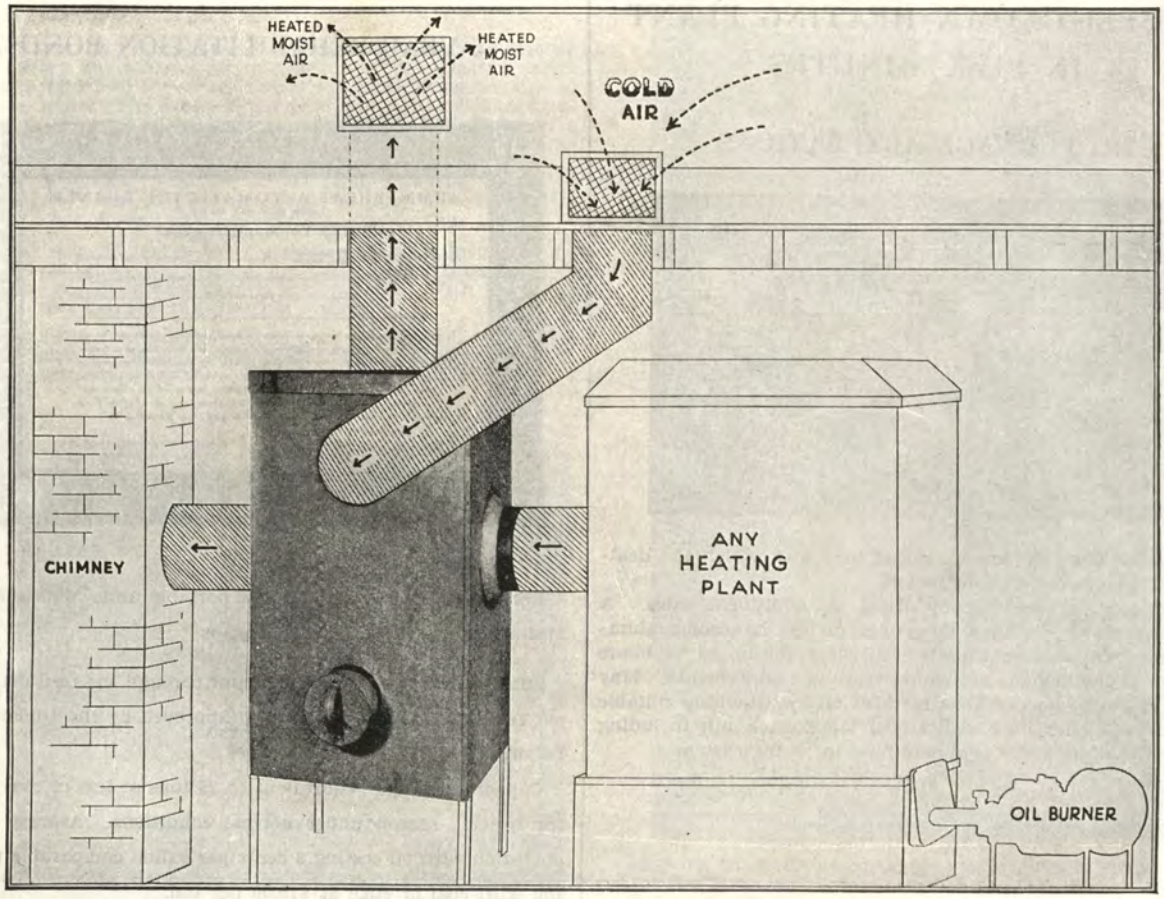
The Heating System is not disturbed, thus permitting Garbage Incineration or the burning of coal or wood at any time. It is equally efficient for Warm Air—Steam—Hot Water or Vapor.

Summerheat pioneered feed-door application and after exhaustive tests the Underwriters' Laboratories approved the Summerheat burner as a Garbage Incinerator also, and our principle of incineration is now recognized by authorities as the most scientific—since it burns the vapors rising from the refuse during the process of dehydration—thus eliminating all odor and taking full effect of the fuel content of the garbage which when added up through a heating season for the average household, is a substantial item. This added convenience and health safe-guard is another exclusive Summerheat feature. (Thus Summerheat buyers get modern incineration at no extra cost.)

FUEL-SAVER. HUMIDIFIER AND AIR WASHER

THE RIDLER

Below we show a typical installation in the basement



The RIDLER FUEL SAVER, HUMIDIFIER AND AIR WASHER automatically makes use of the waste heat in your heater and properly conditions the air in your home into warm, moist air that is washed and circulated throughout the home. By utilizing this waste heat your heater consumes less fuel as the heating efficiency of your furnace is materially increased at no extra expense. There is no stagnant water when you install the RIDLER, but always a fresh supply of clean water. The RIDLER is particularly adaptable to oil burners and gas fire heaters. In summer without any change in connections this unit washes, cools, and circulates the air in your home.

CAPACITIES AND DIMENSIONS

No. of Unit	Approx. Size Bldg. Max. Cu. Cont. for 50% Humidity	Approx. Gals. Water Unit Will Evap. Per Day	Diameter Warm Air & Cold Air Pipes Inches	Dia. Smoke Pipe Con. Inches	Size City Water Supply Inches	Size Drain Pipe Inches	Length Over all in Ins. Outside of Casing	Width Over-all in Ins. Outside of Casing	Height Overall in Ins. from Floor to Top of Casing	Price Complete with Casing and Grilles
1	10,000	10	8	8-9-10	¼	¾	22	17	70	$147.00
2	20,000	20	9	9-10-12	¼	¾	26	21	74	180.00
3	30,000	30	10	10-12	¼	¾	30	25	78	225.00

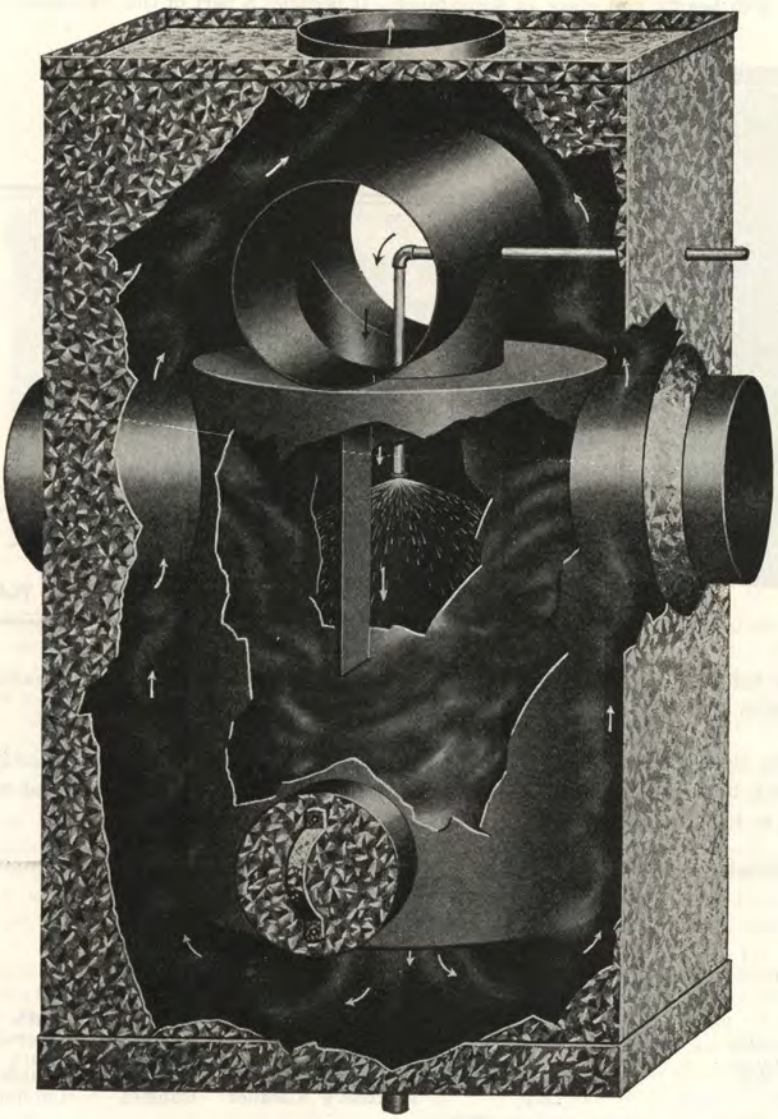
Larger size units can be furnished on which prices will be quoted on request.

Above units can be furnished with fan, when desiring to distribute the humidity and heat to various parts of building such as apartment buildings and office buildings, prices will be quoted on units of this type on request.

FUEL-SAVER, HUMIDIFIER AND AIR WASHER

THE RIDLER

The RIDLER FUEL-SAVER, HUMIDIFIER AND AIR WASHER should be installed in every home. The saving it affects your fuel bill will more than pay for it in a few seasons.



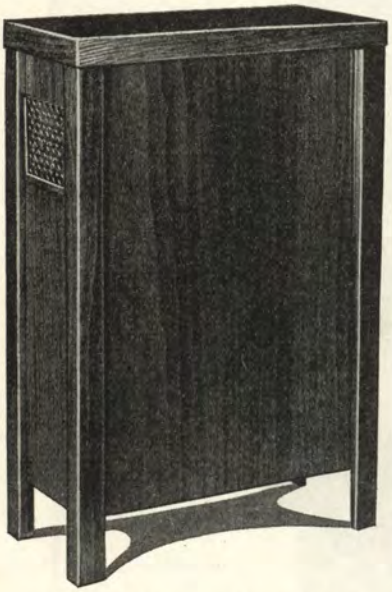
Wasted heat that normally passes up the chimney enters the fuel saver through the Heat intake pipe, shown at the right of the picture. This wasted heat enters the Heat chamber and circles to the bottom and around the Copper bearing steel heater. Baffle plate causes even distribution of heat. Following the course of the red arrows, it passes out at the left through the Outlet pipe and up the chimney. A Water supply pipe connected to your regular city water supply runs into the Fuel saver at the right and turns downward inside of the Copper bearing steel heater. On the end of this water pipe is a spray nozzle which throws a fine spray of water downward through the inside of the hot Copper bearing steel heater. This forces the air downward through the inside of the Copper bearing steel heater. At this point the air is washed and saturated with moisture. This humidified, warm air rises from the bottom of the heater, and following the course of the white arrows, it rises along the entire outside heated surface of the heater and passes out the Moist air outlet at the top and is circulated throughout every room in the house, heated, washed, and properly humidified.

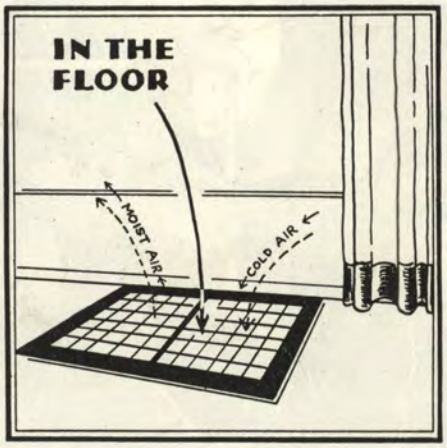
As the air passes through the water spray the dirt is washed out and carried to the sewer through the Drain pipe, as shown at the bottom of the cabinet.

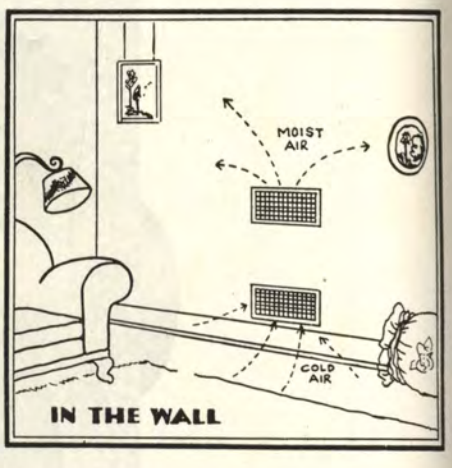
AUTOMATIC HUMIDIFIER AND AIR WASHER

THE RIDLER

The RIDLER AUTOMATIC HUMIDIFIER AND AIR WASHER serves a two-fold purpose. It combines the utmost in air conditioning efficiency with beauty and grace in appearance. It becomes a part of the decorative scheme of any room.







The RIDLER can be installed on the floor, in the floor, in the wall or in the basement. Beautiful in design, with a wide choice of colors to select from . . . it becomes a part of the decorative scheme of any room.

The Ridler Automatic Humidifier and Air Washer also finds its place in churches, clubs, hotels, offices, schools, factories and industrial plants. They have proven highly satisfactory after months of steady operation and have promoted better working conditions at a saving in fuel.

The RIDLER is adaptable to all types and styles of homes and is easily installed anywhere.

CAPACITIES AND DIMENSIONS

No. of Unit	Approximate Size Building Maximum Cu. Cont. for 50% Humidity			Approximate Gallons Water Unit Will Evaporate Per Day			Approx. Capacity in Sq. Ft. Radiation for Heat'g	Height Overall in Ins. from floor to top of Cabinet	Width Overall in Ins. outside of Cabinet	Lgth. Overall in Ins. outside of Cabinet	Size Supply and Retu'rn pipe Con.	List Price
	Steam	Vapor	Water	Steam	Vapor	Water						
1	25,000	20,000	15,000	25	20	15	30	28	12	21¼	¾	$147.00
2	30,000	25,000	20,000	30	25	20	40	31	12	21¼	¾	180.00

Larger size units can be furnished which will evaporate up to 15 gallons of water per hour. Prices quoted on request Special cabinets, and special finishes can be furnished, on which prices will be quoted upon request.

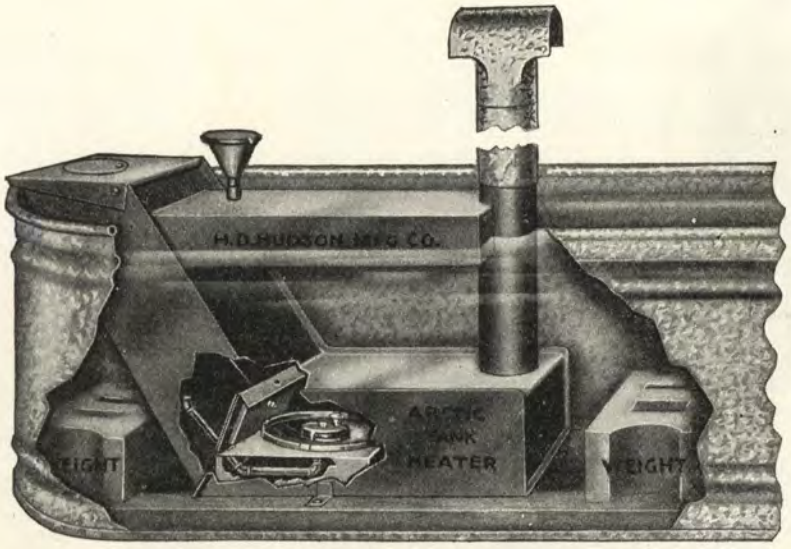
When unit is wanted for installation in basement to hang under floor, purchaser must specify whether grilles are wanted for use in floor or in side wall. Prices of basement units are the same as above.

Always specify when ordering whether unit is to be used on one pipe steam, two pipe steam or hot water system. Humidiguide for determining amount of humidity in room can be furnished at $10.00 each.

TANK HEATERS

ARCTIC OIL BURNING

(WELDED SUBMERGED TYPE)



Burns Any Kind of Fuel—Kerosene, Crude Oil, Fuel Oil, or Distillate, Wood, Chips, Straw, Corn Cobs, Coal.

The Hudson Arctic Oil Burning Tank Heater is easily installed, very convenient and safe to operate.

Convenient—To start the heater, simply open the hinged door on the burner; light the torch supplied with the heater: place it at the base of the burner; open the regulating valve; the oil will ignite and the heater is ready for continuous operation. The burner is conveniently placed in the same position as the grate in a coal burning tank heater. The burner can be easily removed from the heater and coal grates inserted without the use of tools. This exclusive feature enables the user to change fuel on a moment's notice. A great convenience during severe weather. The hinged door is connected to a revolving baffle plate on the burner which enables the operator to remove all soot and carbon without removing the burner from the heater.

Easily Installed—This Arctic Heater is easily installed; there are no pipe fittings or connections to make. The heater is anchored to a weighted platform and placed in the bottom of the water tank. A very simple operation.

Construction—The body is made from 14 gauge blue anncaled, copper bearing sheets, welded into a single unit by a special process. The design is what is known as the popular "submarine type." Tests have proved that a heater completely submerged into a tank of water is more efficient because all the heat units are utilized to heat the water. Thereby, heating more water with less fuel.

The Burner—The patented bowl and baffle is made from heavy grey iron to give many years of srvice. The burner is so designed that no matter in what position it may be setting, the oil is forced out equally around the entire bowl. Oil and air fed into burner is pre-heated, thus quickly producing a roaring white-hot flame that fills the entire heat chest. The flow of fuel is controlled by a feed valve that is in plain sight and which may be adjusted to meet requirements in varying temperatures.

A five gallon oil reservoir is attached directly to the heater so that the oil is pre-heated; this assures a uniform flow of oil to the burner in all kinds of weather. Heated oil burns more readily, with a hotter flame and it takes less oil to heat a given amount of water. The amount of fuel used varies according to the amount of water to be heated and the weather. In mild weather the feed valve may be adjusted to produce a low flame. When adjusted in this manner the heater will consume about two gallons of oil in twenty-four hours. In very cold weather in a tank of ordinary size, with a steady white-hot flame going this burner will consume from three to five gallons of oil in 24 hours. Great quantities of water can be heated in a short time with this heater. Installation and operating instructions furnished with every heater.

Heaters furnished with three joints 5-inch galvanized stove pipe, pipe cap, lighting torch, ash scraper and hold down lugs for fastening heater in tank.

Size—42 inches long, 12 inches wide, 25 inches high.

No. 11—Arctic Tank Heater—Oil burning, complete as described above, everything packed in heater. Shipping weight, 85 lbs. Each $25.00

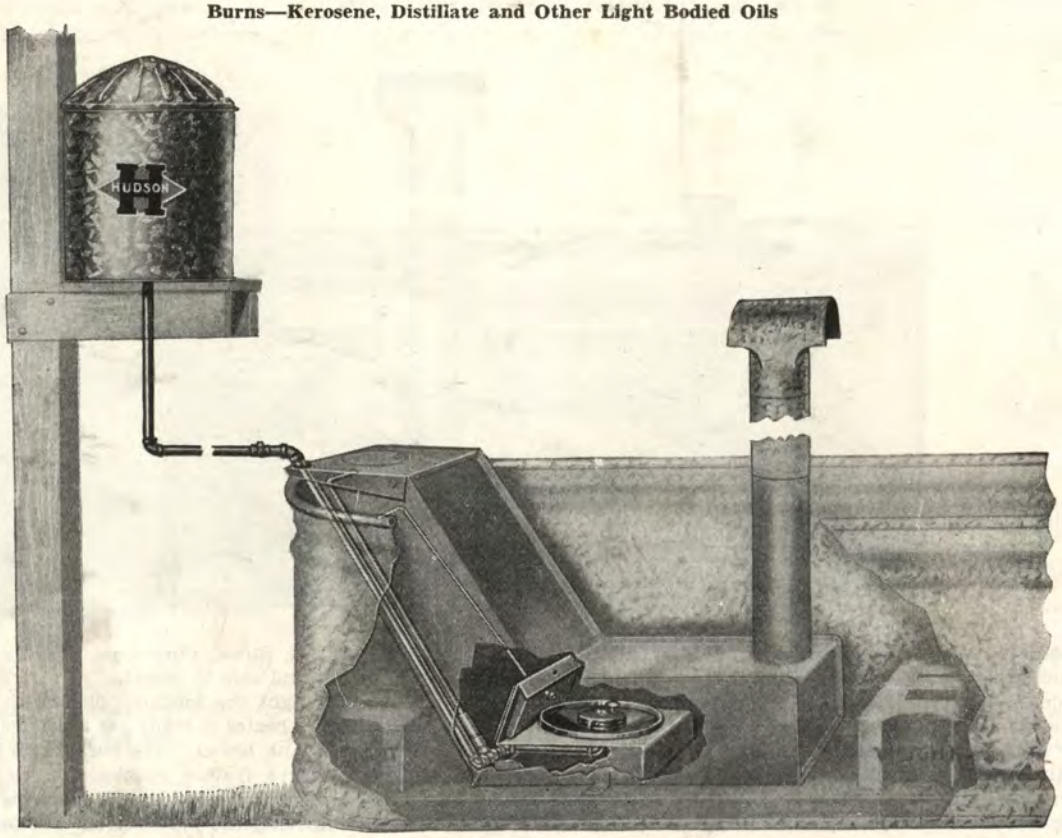
No. 12—Arctic Tank Heater—Combination coal, wood and oil burning with coal grate. Shipping weight, complete heater and grate, 95 pounds. Everything packed in heater except grate. Each $27.00

TANK HEATERS

HUDSON OIL BURNER

FOR INSTALLATION IN—HUDSON, KLONDIKE, FELKER, PERFECTION AND BUSBY TANK HEATERS.

Burns—Kerosene, Distiliate and Other Light Bodied Oils



The Hudson Oil Burner outfit is a complete oil burning unit designed for installation in any of the standard makes of tank heaters mentioned above. Thousands of these heaters that are now in use burning coal, wood and other fuels can be converted into a highly efficient oil burning tank heater by the addition of this unit. The heavy grey iron burner parts are mounted on a pressed steel frame that slips into the heater in place of the ordinary coal grate. The burner is so designed that it can be installed in any of these heaters in a very few minutes' time. It is only necessary to slip the burner unit in place, screw in the oil supply pipe extensions and fittings, cut a small notch out of the corner of the tank heater cover for the pipe line to pass through, and mount the oil reservoir tank on a suitable platform. The heater is then ready for use.

To start the heater, simply open the hinged door on the burner, open the valve, and permit a small quantity of oil to flow into the burner bowl. Dip the generating torch in this oil and light it. Place it beside the burner, and in about a minute's time, open the regulating valve. The oil will ignite, and the heater may be kept in continuous operation. The hinged door on the burner is connected to a revolving grey iron baffle plate which enables the operator to remove all soot and carbon without removing the burner from the heater.

THE BURNER

The patented bowl and baffle is made from heavy grey iron and will give many years of service. The burner is designed so that no matter in what position it may be setting, the oil is forced out and distributed equally to all sides of the bowl, producing a wide flame. The air which is introduced in to the burner together with the oil which is fed in through the pipe adjacent to the underneath side of the burner preheats the oil and the air which produces a roaring, white-hot flame, filling the entire heat chest. The flow of oil is controlled by feed valve with convenient shut-off and regulating lever.

The reservoir tank furnished, which is 5 gallon, may be mounted on a post, platform, or any convenient object.

The amount of fuel varies according to the amount of water to be heated and the weather. In mild weather the feed valve may be adjusted to produce a low flame. When adjusted in this manner, the heater will consume about two gallons of oil in 24 hours. Great quantities of water can be heated in a short time with this heater unit.

Installation and operating instructions furnished with every outfit. Outfit consists of cast iron burner mounted on pressed steel platform with hinged cover, oil regulating valve, valve shut-off lever, pipe cap, 5 gallon oil tank and cover, and necessary fittings to connect as shown in illustration.

No. 13—Hudson Oil Burner Outfit—Each **$15.00**

Packed complete in carton. Shipping weight, each — lbs.

1934 - 1935

NET PRICE LIST

SPECIAL NOTICE

PRICES IN THIS PRICE LIST ARE NOT GUARANTEED

A large number of the prices in this price list are based on contracts placed many months ago. When quantities contracted for are exhausted, our prices will have to advance with the market. For this reason we cannot guarantee these prices beyond Sept. 15, 1934. When ordering after that date, we suggest that you indicate on your order what you understand the price will be. This will make it possible for us to inform you before shipping, in cases where there has been an advance.

Applying to

Stove and Furnace Catalog

No. 336

All Prices Subject to Change Without Notice

JANNEY, SEMPLE, HILL & CO.
Minneapolis, Minn.

Page 9—

Moderne Sanico—
All less 50%

Page 12—

Steel Ranges—

	Each
No. 31-24RC	$72.50
No. 31-24SC	67.00
No. 31-24RS	67.50
No. 31-24SS	62.00

Waterfront—
Each $5.50

F. S.

F. O. B. Shakopee, Minn.

Ranges may be furnished fitted with waterfronts at an extra charge of.....$4.00

Caster Cup or foot rests—
Per set of 4.....$0.60

Page 13

Steel Ranges—

	Each
No. 31-23RC	$72.50
No. 31-23SC	67.00
No. 31-23RS	67.50
No. 31-23SS	62.00

Waterfront—
Each $5.50

F. S.

F. O. B. Shakopee, Minn.

Ranges may be furnished fitted with waterfronts at an extra charge of.....$4.00

Caster Cup or foot rests—
Per set of 4.....$0.60

Page 15—

Steel Ranges—

Green and Ivory—

	Each
No. 33-14RC	$57.50
No. 33-14SC	53.50
No. 33-14RS	53.50
No. 33-14SS	49.50

Tan and Ivory—

No. 33-13RC	$57.50
No. 33-13SC	53.50
No. 33-13RS	53.50
No. 33-13SS	49.50

Waterfront—
Each $5.50

F. S.

F. O. B. Shakopee, Minn.

Ranges may be furnished fitted with waterfronts at an extra charge of.....$4.00

Caster Cups or Foot rests—
Per set of 4.....$0.60

Page 16—

Steel Ranges—

	Each
No. 33-04RC	$44.00
No. 33-04SC	40.50
No. 33-04RS	41.00
No. 33-04SS	37.50

Waterfront—
Each $5.50

F. S.

F. O. B. Shakopee, Minn.

Ranges may be furnished fitted with Waterfronts at an extra charge of.....$4.00

Caster Cups or foot rests—
Per set of 4.....$0.60

Page 19—

Peggy Washington Cast Range—

	Each
No. 118-5SC	$38.50
No. 118-5RC	44.75
No. 118-5SS	37.75
No. 118-5RS	44.00
No. 118-SC	32.50
No. 118-RC	38.75
No. 118-SS	31.75
No. 118-RS	36.50

Page 21—

Lady Washington Steel Ranges—

	Each
No. 418-SC	$32.50
No. 418-RC	38.75
No. 418-SS	31.75
No. 418-RS	36.50

Page 22—

Cast Cook Stoves—

	Each
No. 819R	$22.50
No. 8-17	13.90
No. 8-19	17.50
No. 47-14	9.50
No. 47-14R	13.50
No. 47-14C	13.50
No. 47-14RC	17.50

Page 23—

Ranch Stoves—

	Each
No. 177	$11.50

Kitchen Heaters—

	Each
No. G28	$16.00
No. W28	16.00
No. N28	17.50
No. B28	10.85

Page 24—

Laundry Stoves—

	Each
No. 28	$5.75
No. 48	7.50
No. 8P	3.45
No. 228HW	9.50
No. 448HW	11.75

Page 27—

Circulating Heaters—

	Each
No. 420	$44.50
No. 422	57.00
No. 518	32.50

Page 30—

General Washington Circulators—

	Each
No. 729	$65.00
No. 527	50.00
No. 426	39.00
No. 325	31.00
No. 224	26.75

Page 32—

Circulating Heaters—

	Each
No. LW221	$45.00
No. B221	37.50
No. B201	29.50

Page 35—

Sunny Boy Circulator—

	Each
No. A118	$38.50
No. B120	47.50
No. C-122	56.00

Page 36—

Circulating Heaters—

	Each
No. 220	$33.00
No. 218	26.50

Page 38—

Circulating Heaters—

	Each
No. 620A	$29.50
No. 238	28.50
No. 612J	15.95

Page 40—

Sunny Boy Washington—

	Each
No. 610	$27.50

Page 42—

Liberty Circulators—

	Each
No. 820	$30.00
No. 818	26.00

Page 44—

Circulating Heaters—

	Each
Queen Anne	$66.00
Tudor	46.75

Page 45—

Circulating Heaters—

	Each
Sunshine	$46.75
Brilliant	33.95

Page 46—

Circulating Heaters—

	Each
No. 488E	$49.50

Page 47—

Circulating Heaters—

	Each
No. 389	$25.95

Page 48—

Circulating Heaters—

	Each
No. 879	$41.50
No. 857	36.50
No. 835	33.50

Page 50—

Washington Wood Furnace—

	Each
No. 25W	$24.50

Page 51—

Cannon Stoves—

	Each
No. 25WC	$11.25
No. 35WC	16.50
No. 35WCD	18.65
No. 18	26.50
No. 20	31.00
No. 24	47.00
No. 20D	36.50
No. 24D	54.50

Page 53—

School Room Heater—

	Each
No. 227	$127.50
No. 247	135.00
No. 277	145.00

Page 55—

Heating Stoves—

	Each
No. 116	$42.75
No. 120	62.25
No. M516	15.65
No. M518	17.50

Page 56—

Heating Stoves—

	Each
No. 411P	$ 5.85
No. 413P	7.50
No. 415P	9.45
No. 417P	10.75
No. 419P	12.90

Page 57—

Hot Blast Stoves—

	Each
No. 16E	47%
No. 185E	47%

Page 58—

Cast Wood Heaters—
All 42%

Combination Wood-Coal Heaters—
All 58%

Page 59—

Heating Stoves—	Each
No. 122WP	$ 8.25
No. 126WP	9.90
No. 128WP	11.50
No. 222	5.90
No. 226	7.00
No. 232	10.50
No. 236	11.85

Page 60—

Air Tight Heaters—	Each
No. 22V	$5.15
No. 24V	4.40
No. 28V	4.75

Fish House Stoves—	Each
No. 17	$0.85
No. 17C	.98

Special Air Tight—
Each $1.65

Air Tight Heaters— Wonder—	Each
No. 18	$1.65
No. 20	2.00
No. 22	2.35
No. 24	2.75
No. 28	3.35
Front Drafts	.50

Rural Vehicle Heaters—	Each
No. 575	$6.90

Page 61—

Heating Drums—	Each
No. 10	$5.35
No. 11	3.50

Drum Ovens—	Each
No. 1C	$3.40

Drum Stove Castings—	Per Set
No. 55	$2.75
No. 33	1.80

Camp Stoves—	Each
No. 28	$2.50

Salamanders—	Each
18x24	$5.00
Covers	1.25

Page 62—

Fireplace Dampers—	Each
No. B24	$4.65
No. B30	5.10
No. B36	5.70
No. B42	6.45

With Poker Control—

No. BPC24	$4.95
No. BPC30	5.40
No. BPC36	6.00
No. BPC42	6.75

Ash Dumps—	Per Doz.
No. 9	$6.40
No. 8	5.75

Wood Baskets—	Each
No. 1584—24 inch	$6.00
27 inch	6.45
30 inch	6.90

Page 62—Cont'd.

Fire Place Grates—	Each
No. 1532—24 inch	$5.10
27 inch	5.40
30 inch	5.85
36 inch	9.00

No. 1575—Swedish Finish

No. 24S	$ 8.40
No. 27S	9.30
No. 30S	10.20

No. 1575—Burnt Ant. Brass

No. 20BAB	$ 7.80
No. 24BAB	8.40
No. 27BAB	9.30
No. 30BAB	10.20

Page 63—

Fireplace Goods—

Andirons and Fire Sets—	Per Pair
No. 3636B	$2.10
	Per Set
No. 898B	$3.60
	Per Pair
No. SW3597	$4.95
No. BAB3597	4.95
	Per Set
No. SW909	$6.90
No. BAB909	6.90

Fire Sets—	Per Set
No. SW924	$7.35
No. BAB924	7.35
	Per Pair
No. SW3640	$4.95
No. B3640	4.95

Andirons—	Per Pair
No. 587B	$3.90
No. 859	4.80
	Per Pair
No. 3595R	$10.65
	Per Pair
No. SW3613	$7.65
No. BAB3613	7.65

Page 64—

Fire Sets—	Per Set
No. SW956	$7.35
No. AB956	7.35
	Per Set
No. SW955	$7.35
No. AB955	7.35
	Per Set
No. SW924	$7.35
No. AB924	7.35
	Per Set
No. SW3639	$5.55
No. AB3639	5.55

Andirons—	Per Pair
No. SW3612	$5.90
No. BAB3612	5.90

Fireset—	Per Set
No. SW921	$4.85
No. BAB921	4.85
	Per Set
No. SW3641	$4.95
No. AB3641	4.95
	Per Set
No. SW946	$4.50
No. AB946	4.50
	Per Set
No. SW945	$4.50
No. AB945	4.50

"Northern Lights" Fireplace Crystals—

	Per Doz.
No. 2	$2.25
No. 3	4.50
	Each
No. SW1569	$3.15
No. AB1569	3.15

Page 65—

Fireplace Screens—	Each
No. SW2490	$18.75
No. SW2453	8.55
No. AB2453	8.55
No. 2453S	10.00
No. 2453B.A.B.	10.00
	Each
No. SW2487— Swedish	$4.80
No. AB2487	4.80
No. SW2488	5.25
No. AB2488	5.25
No. 2423BT	4.70
No. 2426BT	4.70
No. 13—31-inch	3.75
37-inch	4.35

Page 68—

Cased Sectional Boilers—
All 50-3%

Page 69—

Cased Sectional Boilers—
All 50-3%

Page 70—

Sectional Steam and Water Boilers— F. S.
Net prices quoted on request

Page 72—

Hot Blast Smokeless Boilers—
F. S.
Net prices quoted on request

Page 74—

Round Boilers—
F. S.
Net prices quoted on request

Page 77—

Square Cased Round Boilers—
F. S.
Net prices quoted on request

Page 79—

Super-Test Hot Water Supply Boilers— F. S.
All 50%

Pages 80-81—

Fan Unit Heaters—
F. S.
F.O.B. Chicago, Ill.
Write for prices.

Page 82—

Radiators—
All 50-3%

Page 83—

Radiators—
F. S.
From Buffalo—
F.O.B. Mpls. in 100-lb. lots.
All 50-3%

Pages 84-86—

Radiators—
F. S.
From Buffalo.
F.O.B. Mpls. in 100-lb. lots.
All 50-3%

Page 87—

Radiators—
All 50-3%

Page 88—

Radiator Accessories—

From Buffalo, N. Y. F.O.B. Minneapolis, Minn. in 100-lb. lots or more.

Pedestals—	Each
½ and 1 inch	$0.20
1½ inch	.28
2 and 2½ inch	.40
3 and 3½ inch	.48
4 and 4½ inch	.60
5 and 6 inch	.64
Less	17%

Brackets— (Wall)—	Per Pair
2-Tube	$0.50
3-Tube	.60
4-Tube	1.00
5-Tube	1.00
6-Tube	1.20
7-Tube	1.50

Nipples, Plugs & Bushings—	Each
Slip Nipples	$0.07
Air Vent Plugs	.01
1½-inch plugs and bushings	.08
	Per Section
Radiator rods	$0.01

Page 89—

Radiator Hangers—

F. S.

(Prices quoted on application)
Bronzes and Bronzing Liquids. Write for prices.

Page 90—

Radiator Valves and Elbows—

No. 10	69%
No. 20	69%
No. 30	69%
No. 40	54½%
No. 50	56%
No. 60	49%

Page 91—

Syphon Air Valves—	Each
No. 1	$0.90
No. 3	1.40

Air and Vacuum Valves—	Each
No. 2	$2.10
No. 4	2.80
No. 5	5.20
No. 6	7.10
No. 7	2.10

Page 92—

Radiator Valves—	Each
No. 1	$1.45
No. 70	.88
No. 2	2.95
No. 77	2.05
No. 4	1.90
No. 44	1.50
No. 5	6.15

Page 93—

Radiator Valves—	Each
No. 6	$9.35
No. 16	4.25
No. 8	3.40
No. 1D	.87
No. 1933	.43

Page 94—

Radiator Valves—	Each
No. 2B	$2.30
No. 6B	3.35
No. 3C	1.75
Marsh Valve-A-Teria	7.50
Marvel Air Valves	.75
No. 19	3.60

Page 95—

Steam Gauges—	
Each	$1.80

Compound Retard Gauges—	
Each	$3.50

From Buffalo, N. Y. F.O.B., Mpls.	Each
3½ inch	$1.75
3½ inch	2.50
½ inch	.80

Boilerene—	Each
5-lb. carton	$1.50

Hercules Boiler Solder—	
Per lb.	$2.75

Hercules Boiler Liquid—	
Per quart	$1.25

Page 96—

Safety Feeders—	Each
No. 30-S	$31.50
No. 30-L	39.00
No. 30-S-31	40.50
No. 30-L-31	48.00
No. 31	9.00
No. 33	11.25
No. 34	12.00

Page 97—

F. S.
From Buffalo, N. Y.

Sylphon Water Regulators—	Each
No. 45	$12.00
No. 45A	12.00
No. 45B	12.00
No. 46W	9.60

Globe Supply Valves— No. 2—	Each
⅛ inch	$0.30
¼ inch	.30
⅜ inch	.35
½ inch	.45
¾ inch	.55
1 inch	.75
1¼ inch	1.15
1½ inch	1.50
2 inch	2.25

Boiler Draw-Off Cocks—
Write for prices.

Hot Water Air Valves—
Write for prices.

Page 98—

Hot Water Heaters—	Each
No. 30	$ 6.10
No. 1	8.15
No. 1A	13.15
No. 2	17.45
No. 2A	20.40
No. 3	35.20
No. 3A	41.20

Super Taco—Prices and specifications furnished on request.

Tacos Nos. 4, 5 and 6—Prices and specifications furnished on request.

Firepot Heaters — Prices and specifications furnished on request.

Page 99—

Hot Water Heating—

F. S.

F. O. B. Peru, Indiana.

Class AA Thrush System—

	Each
No. 0	$34.00
No. 1	35.50
No. 2	37.00
No. 3	39.00

Class A Thrush System—Each

No. 0	$38.00
No. 1	29.50
No. 2	31.00
No. 3	33.00

Class BB Thrush System—

	Each
No. 0	$25.00
No. 1	26.50
No. 2	28.00
No. 3	30.00

Page 100—

Hot Water Heating—

Class B Thrush System—

	Each
No. 0	$19.00
No. 1	20.50
No. 2	22.00
No. 3	24.00

Class DD Thrush System—

	Each
No. 0	$23.00
No. 1	24.50
No. 2	26.00
No. 3	28.00

Class D Thrush System—

	Each
No. 0	$17.00
No. 1	18.50
No. 2	20.00
No. 3	22.00

Page 101—

Hot Water Heating—Thrush System—

Imperial System—	Each
No. 1-F	$16.00
No. 2-F	17.50
No. 3-F	19.50

Type CA Thrush Equipment with Standard Dual Control

	Each
No. 0	$28.50
No. 1	30.00

With Master Dual Control—

	Each
No. 0	$30.00
No. 1	31.50
No. 2	33.00

Type CC Thrush Equipment with Standard Dual Control

	Each
No. 0	$19.50
No. 1	21.00

With Master Dual Control—

	Each
No. 0	$21.00
No. 1	22.50
No. 2	24.00

Page 102—

Hot Water Heating Systems—
F. S.
F.O.B. Peru, Ind.

Dual Control Unit—	Each
Standard	$ 8.50
Master	10.00

Pressure Reducing Valve—

	Each
No. 12—	
½ inch	$6.00

Water Relief Valves—	Each
No. 35	$3.50
No. 40	2.25
No. 45	2.25
No. 55	2.75

Page 103—

F. S.

Damper Regulator—
Each $9.00

Forced Circulation System—

	Each
No. 15F	$42.50
No. 22F	47.50
No. 23F	55.00

Differential Pressure Relief

Valve—	Each
No. 4	$8.00

Combination Gauge and Thermometer—
Each $2.00

Page 107—

Warm Air Heaters—
All less 50%

Page 108—

Furnaces—

	Complete with Casings	Castings only
No. 136B2..	$ 45.75	$ 39.90
No. 140B2..	55.75	48.55
No. 144B2..	65.50	57.40
No. 148B2..	77.85	68.40
No. 152B2..	91.00	80.65
No. 156B2..	106.75	92.80
No. 160B2..	106.75	92.80
No. 160B2..	126.55	109.45

Page 111—

Syphon System—
Warm Air Supply—
Less 50%

Page 112—

Pipeless Furnaces—
Double Side Wall Combination. For 18, 20, 22, and 24 inch Furnace add $25.00 to price of Pipeless Furnace. For 28 inch Furnace add $30.00 to price of Pipeless Furnace.

F. S.
F.O.B. Coldwater, Mich.

Heat Distributors—
All 50%

Page 113—

Pipeless Heaters—	Each
No. 136B1	$ 59.75
No. 140B1	69.85
No. 144B1	88.75
No. 148B1	101.50
No. 152B1	115.75
No. 150B1	130.75

Page 115—

Armstrong Furnaces—
All 50%

Page 118—

Northland Steel Furnaces—

No Casing—	Each
No. 24-46N	$ 82.50
No. 27-50N	94.00
No. 30-52N	107.50
With Casing—	
No. 24-46	$ 95.00
No. 27-50	108.00
No. 30-52	122.50

Page 121—

Silent Furnace Fan—
F.O.B. Minneapolis, Minn.
All 50%

Page 122—

Silent Furnace Fan Air Washer—F.O.B. Mpls., Minn.
All 50%

Page 123—

Air Conditioner—
All 33 1/3%

Page 125—

F. S.
F.O.B. Cedar Falls, Iowa.

Automatic Drip Humidifier—

	Each
No. 16	$12.50
No. 20	16.00

Page 126—

Temperature Regulator—
Electric Janitor $21.00
No. L47-2 ..... 8.25

Page 127—

Jewell Temp. Regulator—

	Each
No. J8	$24.00
No. JO	9.40
No. L215-1	7.90
No. L209-1	6.75
No. L204-2	6.75
No. L208-2	7.90

Page 128—

Air Moisteners—
Less 35%
Minnehaha Humidifier—
Less 33 1/3%

Page 129—

Tropic Air Moistener—
All 33 1/3%

Humidifiers—
F.O.B. Dowagic, Mich.

	Each
Type "A"	$ 5.75
Type "D"	13.50

Page 130—

Register Shields—
No. 1 ..... 33 1/3%

Automatic Humidifiers—
F.O.B. Chicago, Ill.

	Each
Skuttle	$5.75

Air Moisteners—	Per Doz.
No. 11	$4.50

Re-Ly-O—
All 35%

Page 131—

Air Moisteners—
Simplex—
Each $14.50

Check Dampers—
Adams No. 1 Complete—
All sizes 15%

End Check Only—
7 inch 15%
8 inch 15%
9 inch 15%

Collars Only—
All sizes 15%

Adams No. 2—	Each
6-7-8	$0.90
9-10-11	.90

Page 132—

Furnace Clocks—

Little Janitor—	Each
Tillery's	$4.00

Asbestos Paper—
Sell in original rolls only—

No. 12—	Per Cwt.
Full rolls (100 lbs.)	$7.10
Half rolls (50 lbs.)	7.25
No. 14—	Per Cwt.
Full rolls (100 lbs.)	$7.10
Half rolls (50 lbs.)	7.25

18-inch wide—
Half rolls (50 lbs.) $7.25

Corrugated Paper—	Per Roll
Full rolls	$4.00
	Per Sq. Ft.
Less	$0.03

Asbestos Air Cell Board—	Per sq. ft.
2 Ply ½ inch	$0.06
3 Ply ¾ inch	.08
4 Ply 1 inch	.10
5 Ply 1¼ inch	.12
6 Ply 1½ inch	.14

For less than full cartons add for cutting $0.75.

Asbestos Mill Board—	
Thickness	Per lb.
1-32	$0.09
1-16	.09
3-32	.09
⅛	.09
3-16	.09
¼	.09
⅜	.09
½	.09

Less than 5 sheets crating charge 35 cents per crate.

Page 133—

Asbestos Plastic Cement—	
50 or 100 lb. bag	$2.20
Small lots, per lb.	.03

Asbestos Covering—
Air Cell Sectional Covering

2 ply ½ inch thick	69%
3 ply ¾ inch thick	65%
4 ply 1 inch thick	56%

Wool Felt Sectional—	
½ inch	69%
¾ inch	65%
1 inch	56%

Asbestos Dry Paste—	Per Lb.
200 lb. Barrel	$0.08½
100 lb. Kegs	.09
50 lb. Drums	.09½
25 lb. Pails	.10
10 lb. Bags	.10½
5 lb. Bags	.11
2½ lb. Bags	.11½

Page 133—Cont'd

Larco Mineral Paste—Per Doz.
2½ lb. bags.....$3.00
5 lb. Bags..... 5.50
25 lb. Pails.....30.00

Furnace Cement—
Rutland— Each
1 lb. cans.....$0.09
5 lb. cans..... .35
10 lb. cans..... .70

Page 134—

F. S.

Furnace Cleaner—
F. O. B. Chicago, Ill.
Each $139.50

Page 137—

Kwik-Lok Double Wall Stack
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 138—

Kwik-Lok Double Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 139—

Kwik-Lok Double Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 140—

Kwik-Lok Single Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 141—

Kwik-Lok Double Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 142—

Kwik-Lok Double Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 143—

Kwik-Lok Single Stack and Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 144—

Kwik-Lok Double Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 145—

Single Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 146—

Single Wall Fittings—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 147—

Floor Register Boxes—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over. No Crating Charge

Page 148—

Round Pipe and Elbows—
All 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 149—

Furnace Pipe and Fittings—
Galvanized and Black Pipe,
Elbows and fittings.....60%
Galvanized Smoke Pipe and 90° Elbows, 24 and 26 gauge, 7 to 12 inch.....60-10%

Our furnace pipe comes in 24-inch joints; 30-inch joints can be supplied but will delay filling of the order.

Balance 60%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 150—

Cold Air Shoes, Etc.—
All 60%

Page 151—

Cast Iron Smoke Pipe—Each
8 inch 30%
9 inch 30%
10 inch 30%

F. S.

F. O. B. Waterloo, Iowa.
Each
6 inch 30%
12 inch 30%
14 inch 30%
16 inch 30%

Crating Charged Extra at Cost

Page 152—

Furnace Cleaners— Each
Skuttle $1.75

Page 154—

Jones-National Registers—
Less 40%

Page 155—

Jones-National Registers—
Less 40%

Page 156—

Jones-National Registers—
Less 40%

Page 158—

Registers—
Less 40%

Page 159—

Registers—
Less 40%

Page 160—

Registers—
Less 40%

Page 161—

Baseboard Registers—
Less 40%

Page 162—

Registers and Cold-Air Faces
Less 40%

Page 163—

National One-Piece Registers
Less 40%

Page 164—

National One-Piece Registers
All 40%

Boots and Angles—
Less 50-10%

Crating Charge—
On all orders under $5 25c
On orders over $5 but less than $10.....45c
Orders of $10 or over No Crating Charge

Page 165—

U. S. Special Steel Faces—
Less 40%

Page 166—

Registers Q Borders.....40%
Small Faces (under 14x14) 40%
Larger Faces (14x14 and Larger) 65%

Page 167—

Cold-Air Faces—
All 60%

Page 168—

Pulley Registers— Per Pair
Regular Register price plus Pulleys $0.50
Indicator Plates ..... .25

Stove Pipe Registers and Ventilators—

Adams—	Per Doz. Sets
6 inch	$32.00
7 inch	32.00

Stove Pipe Cylinders—

	Per Doz.
No. 8	$4.00
No. 10	4.50
No. 9	4.75

Combination Ventilators—

	Each
No. 108	40%

Ceiling Ventilators—
Less 40%

Page 169—

Ceiling Plates—
For Adam's S. P. Reg. and Ventilators—

6 inch	$16.00
7 inch	17.25

Flue Stoppers—
Kirsch Adjustable—

	Per Doz.
Kirsch	$1.35
W-K	.85

Clark's Gem—

No. 1	$0.90
No. 3	.80
No. 37	.80

Page 169—Cont'd

Stove Pipe Collars—

Crown—	Per Doz.
6 inch	$0.35
7 inch	.45

Stove Pipe Collars—

No. 36	$0.45
No. 46	.45

Stove Pipe Thimbles—
Common K. D.—
Sheet Iron Nested—

	Per Doz.
3 inch	$0.65
4 inch	.70

Galv. Adjustable—

No. 67	$0.65
No. 676	.90
No. 89	1.60

Common Cast Iron—

6 inch	$3.60
7 inch	4.50
8 inch	5.40
9 inch	7.50

Page 170—

Draft Regulator and Fuel Saver—

	Each
No. 4	$1.60
No. 6	2.20
No. 7	2.30
No. 8	2.45
No. 9	2.60
No. 10	3.20

F. S.
F. O. B. St. Joseph, Mo.

	Each
No. 3	$1.60
No. 5	1.90
No. 12	3.85

Page 171—

Flue Eliminators— Per Doz.

No. 48	$3.00
No. 48C	2.40

Page 172—

Warm Air Pipe Dampers—

	Per Doz.
7 inch	$1.60
8 inch	2.20
9 inch	2.60
10 inch	2.80
12 inch	3.50
14 inch	5.00

Stove Pipe Dampers—

Nickel Handles—	Per Doz.
3 inch	$1.00
4 inch	1.05
5 inch	1.20
6 inch	1.30
7 inch	2.00
8 inch	2.90
9 inch	4.35
10 inch	6.00
12 inch	7.25

Damper Clips— Per Doz.
No. 21 Clips only.....$1.00
No. 20 With Tail Piece 1.20

Vails Adjustable Swing Chimney Top— Per Doz.
Frames only $10.80

With Hoods and Vanes—

6 inch	$18.50
7 inch	19.80
8 inch	21.00
9 inch	22.75
10 inch	24.50

Page 172—Cont'd

Revolving Chimney Tops—

	Per Doz.
No. 1½	$45.35

F.O.B. Sterling, Ill.

No. 1	$42.40
No. 3	59.20

Page 173—

Chimney Caps—	Per Doz.
No. 10	$14.50
No. 10½	14.50
No. 12	24.40

Roof Caps—	Per Doz.
6 inch	$3.25

Roof Saddles—	Per Doz.
No. 7	$4.85

Car Saddles—	Per Doz.
No. 9	$6.00

Peak—	Per Doz.
No. 8	$5.35

Ash Doors and Frames—	Each
8x8	$0.54
8x10	.70
10x12	.95
12x15	2.25

F. S.

16x20	3.15
Lots of 1 doz. Ex.	5%

Page 174—

Fuel Chutes—	Each
No. 1	$6.40

Majestic—
All 25%

Page 175—

Steel Windows—

Crescent—	Each
No. 3113G	$3.48
No. 3113D	3.48
No. 2112E	3.36

Covers for Manhole Rings—

	Rings only	Rings with covers
No. 1G	$2.00	$ 3.75
No. 2G	3.00	5.55
No. 3G	4.75	9.05
No. 4G	7.00	13.75

Standard Cistern Rings and Covers— Each
No. 20—20-inch $2.75

Garbage Receivers—
All 25%

Heavy Pattern Manhole Rings and Covers—

	Each		
	Solid or Grated Covers	Rings only	Rings with Cover
No. 1H	$2.00	$2.00	$3.75
No. 2H	3.00	3.00	5.55
No. 3H	4.75	4.75	9.05
No. 4H	7.00	7.00	13.75
	Solid only		
No. 5H	19.00	10.00	27.50
No. 10H		3.50	6.90

Page 175—Cont'd

"A" Pattern—
Medium Weight—

	Each
Solid Covers—	
No. 3A	$3.75
No. 4A	5.25
No. 5A	9.50
No. 6A	13.00
Rings—	
No. 3A	$3.75
No. 4A	5.25
No. 5A	9.50
No. 6A	13.00
Grated Covers—	
No. 4A	$5.25
Rings with Covers—	
No. 3A	$7.20
No. 4A	9.60
No. 5A	15.25
No. 6A	25.00

Page 176—

Stove Pipe—
Martin X Blue—
(29 Gauge)
24-inch Joints—
Knocked Down—

	Per Crate	Less than Crate Per Joint
No. 31	$2.45	$0.13
No. 41	2.60	.13½
No. 61	2.90	.14
12-inch Joints—		
No. 61½	$1.85	$0.09
Made Up—		
No. 31M	$12.50	$0.14
No. 41M	13.00	.16
No. 61M	14.25	.17
No. 71M	16.90	.19
12-inch Joints—		
No. 61½M	$8.70	$0.12

Martin XX Galvanized—
(28 Gauge)
24-inch Joints—
Knocked Down—

No. G32	$3.35	$0.16
No. G42	3.75	.17
No. G52	4.40	.19
No. G62	4.75	.20
No. G72	5.20	.23
Made Up—		
No. G52M	$20.25	$0.23
No. G62M	21.35	.24

Martin XX Blue—
(28 Gauge)
24-inch Joints—
Knocked Down—

No. 32	$2.65	$0.14
No. 42	2.75	.15
No. 52	2.90	.16
No. 62	3.00	.16
No. 72	3.75	.18
No. 82	4.75	.23
12-inch Joints—		
No. 62½	$1.90	$0.11
6-inch Joints—		
No. 62¼	$1.35	$0.07
Made Up—	Full Crate	
No. 32M	$12.50	$0.15
No. 42M	13.00	.16
No. 52M	14.20	.17
No. 62M	14.75	.18
No. 72M	17.50	.20
No. 82M	20.80	.25
12-inch Joints—		
No. 62½M	$9.80	$0.13

Page 176—Cont'd

6-inch Joints—

No. 62¼M	$7.60	$0.10

Martin 4X Blue—
(26 Gauge)
24-inch Joints—
Knocked Down—

No. 64	$3.50	$0.17
No. 74	4.25	.20
12-inch Joints—		
No. 64½	$2.45	$0.12
Made Up—		
No. 64M	$17.00	$0.20
No. 74M	20.25	.24
12-inch Joints—		
No. 64½M	$12.00	$0.15

Range Pipe—
Knocked down—30-in. Jts.
Martin 4X Polished—

7-inch	$0.23	$0.26

Page 177—

Stove Pipe Elbows—
Corrugated—
Martin X Blue—
(30 Gauge)

	—Per Dozen— Per Doz.	Less than doz.
No. 30C	$1.00	$1.25
No. 40C	1.05	1.30
No. 50C	1.10	1.35
No. 60C	1.15	1.40
No. 70C	1.50	1.75

Martin XX Blue—
(28 Gauge)

No. 62C	$1.35	$1.60
No. 72C	1.65	1.90

Martin 4X Blue—
(26 Gauge)

No. 64C	$1.60	$1.85
No. 74C	1.90	2.15

Martin XX Galvanized—

No. G42C	$2.20	$2.45
No. G52C	2.45	2.70
No. G62C	2.60	2.85

Adjustable—
Martin XX Blue—
(28 Gauge)

	—Per Dozen—	
No. 32A	$1.70	$1.95
No. 42A	1.75	2.00
No. 52A	1.80	2.05
No. 62A	1.85	2.05
No. 72A	2.20	2.40
No. 82A	2.60	2.80

Martin 4X Blue—
(26 Gauge)

No. 64A	$2.20	$2.45
No. 74A	2.55	2.80

Martin XX Galvanized—
(28 Gauge)

No. G32A	$1.95	$2.20
No. G42A	2.05	2.30
No. G52A	2.20	2.45
No. G62A	2.30	2.55
No. G72A	2.70	2.95

Taper Joints—
Knocked Down—
Martin X Blue—

	—Per Joint—	
No. 761	$0.15	$0.18

Martin 4X Blue—

No. 764	$0.18	$0.21

Martin XX Blue—

No. 762	$0.16	$0.19
No. 762½	.11	.14

Page 177—Cont'd

Made Up—

	—Per Joint—	
Martin X Blue—		
No. 761M	$0.18	$0.21
Martin 4X Blue—		
No. 764M	$0.21	$0.24
Martin XX Blue—		
No. 762M	$0.19	$0.22
No. 762½M	.14	.17

Tee Joints—
Martin XX Blue—

	—Per Doz.—	
No. 62½T	$2.35	$2.90
No. 62MT	4.00	4.55

Martin 4X Blue—

Reducers—
Martin XX Blue—

	—Per Doz.—	
No. 0	$2.20	$2.50
No. 4	2.30	2.60
No. 1	2.70	2.95
No. 21	1.65	1.95

Page 178—

Stove Pipe and Elbows—
Pipe 24 inches Long.

	Per Doz.
3 inch	$5.20
4 inch	6.35
5 inch	7.50
6 inch	8.60
7 inch	10.75

Pipe 12 inches Long.

	Per Doz.
3 inch	$3.10
4 inch	3.65
5 inch	4.25
6 inch	4.75
7 inch	5.85

Adj. Elbows, 4 Piece.

	Per Doz.
3 inch	$2.95
4 inch	3.85
5 inch	4.75
6 inch	5.70
7 inch	7.25

Collars—
All sizes, dozen $2.50

Taper Joints—
24 inches long—Price of full joint large end, plus 20%
12 inches long—One-half price of full taper, plus 20%

Note—Standard packages of all items contain one dozen each of sizes 5 inch and smaller; ½ dozen each in larger sizes. For broken packages add 10%.

Tees—
Price of two full joints.

Stove Pipe—
Martin Snapper—
(25 joints to a crate. We do not break crates.)

	Per Crate	Less than Crate Per Jt.
28 Gauge—		
No. 628S	$3.00	$0.16
No. 728S	3.75	.18
26 Gauge—		
No. 626S	$3.50	$0.17
No. 726S	4.25	.20

Page 179—

Stove Boards—

No. 15—

	Case Lots	Less than Case Lots
26x26...	$14.15	$14.90
28x28...	16.20	17.05
30x30...	18.40	19.35
33x33...	21.90	23.05
36x36...	25.95	27.30

No. 18—

24x36...	$17.25	$18.15
26x32...	16.55	17.40
28x34...	18.95	19.95
30x38...	22.60	23.75
32x42...	25.90	27.20

No. 21—

26x26...	$ 7.55	$ 7.95
28x28...	8.45	8.90
30x30...	9.55	10.05
32x32...	10.95	11.50
35x35...	13.20	13.90

No. 24—

26x30...	$ 8.80	$ 9.25
28x34...	10.45	11.00
30x36...	11.85	12.45

Brown Diamond—

	Per Doz. Case Lots	Less than Case Lots
24x24...	$ 3.30	$ 3.55
26x26...	3.75	4.00
28x28...	4.30	4.60
30x30...	4.80	5.15
26x30...	4.30	4.60
28x30...	5.15	5.45

No. 97—

26x26...	$ 7.55	$ 7.95
28x28...	8.45	8.90
30x30...	9.55	10.05
32x32...	10.95	11.50
35x35...	13.20	13.90

No. 101—

26x30...	$ 8.80	$ 9.25
28x34...	10.45	11.00

Nos. 88 and 89—

28x28...	$16.20	$17.05
30x30...	18.40	19.35
33x33...	21.90	23.05
36x36...	25.95	27.30

Nos. 91 and 94—

24x36...	$17.25	$18.15
26x32...	16.55	17.40
28x34...	18.95	19.95
30x38...	22.60	23.75
32x42...	25.90	27.20

No. 9—

24x24...	$ 6.25	$ 6.55
26x26...	7.05	7.40
28x28...	7.95	8.35
30x30...	9.15	9.60
32x32...	10.30	10.85
35x35...	12.85	13.50

F. S.

F. O. B. Ashville, N. C.

Mica—

Assortment, Each.....$8.75
¼-lb. pkg., list less....60%
Envelope, list less.....70%

Page 180—

Coal Hods—

	Per Doz.
No. 117	$3.70
No. 118	3.90
No. 617	4.60
No. 618	5.00
No. 620	6.60
No. 86	7.00

Page 181—

Stove Shovels—	Per Doz.
"Jumbo"	$1.35
No. 1	1.50
No. 2	1.70
No. 57	1.00
No. 80	.50

Fire Pokers—	Per Doz.
No. 4S	$0.75
No. 404S	2.00
No. 1B	.75

Furnace Pokers—	Per Doz.
No. 605	$4.00
No. 161	4.00

Stove Scrapers—	Per Doz.
No. 13	$0.30

Stove Cover Lifters—	Per Doz.
No. 2	$0.70
No. 5N	.60

Clinker Tongs—	Per Doz.
No. 94	$6.00

Boiler and Furnace Coils—
All 50%

Page 182—

Carbonoid—	Per Doz.
14-oz. containers	$1.50
2-lb. cans	3.00

Furnace Cement—

Rutland—	Each
1-lb. cans	$0.09
5-lb. cans	.35
10-lb. cans	.70

Iron Cement—	Per Doz.
No. 1 Smooth On—	
1-lb. cans	$4.80
7-oz. cans	2.75

C-LER-TITE—
Per dozen $0.75

Asbestos Stove Lining Cement

	Per Doz.
3-lb. papers	$2.20
6-lb. papers	3.60

Patching Plaster—

Universal—	Per Doz.
2½-lb. size	$1.90
5 -lb. size	3.25

Patching Plaster—	Per Doz.
Rutland—	
No. 3	$1.80
No. 6	3.00
No. 10	4.20
No. 15	6.00
Full Case Lots— Extra	10%

Concrete Patcher—	Per Doz.
No. 3	$1.80
No. 5	3.00

Page 183—

Stove Trucks—Baltzly's—

	Each
No. 24	$8.00

F. O. B. Factory in Illinois.
No. 24 Rubber Tires, extra $4.50

Stove Casters—	Per Set
No. 700	$1.18

Stove Shaker Assortments—

	Per Ass't.
Two-in-one	$1.95

We do not break assortments.

Malleable Crank Shakers—
Per assortment.....$2.60
Open stock.

Square—	Per Doz.
⅝ inch	$3.00
¾ inch	3.00

Triangular—	Per Doz.
⅝ inch	$3.00
¾ inch	3.00

We do not break assortments.

Stove Polish—
Black Silk—

Liquid—	Per Doz.
No. 6	$1.30
No. 8	1.75

Paste—	Per Doz.
No. 5	$1.20

	Per Can
No. 20	$0.95

Rising Sun—
Per gross.....$10.80
Per dozen..... .95

Enameline (Paste)—

	Gross	Doz.
No. 4, Medium	$10.80	$0.95
No. 6, Large	15.60	1.40

Flour City	Per Case
No. 66	$2.25
	Per Doz.
Small lots	$0.80

Stove Pipe Enamel—	
Flour City—	Per Case
No. 77	$2.25
	Per Doz.
Small lots	$0.80

Page 184—

Stovoil—	
Per dozen	$3.12

Iron Enamel, Complete Assortment—	Per Doz.
No. 15	$1.08
No. 25	1.80
No. 70	5.04

Stove Polish—
Fyr-Pruf—
Per case (3 dozen)..$4.00
Per dozen 1.40

Stove Enamel—

Black Silk—	Per Doz.
Iron Enamel	$1.85

Black Jack—
All 40%

Weather Strips—
Clincher, Double Contact—

	Per 100 Ft.
No. 70	$1.60
No. 71	1.60
No. 71½	2.25
No. 74	3.00
No. 75	4.00

For broken cartons—
Add 10%

Page 184—Cont'd

Flexible Felt—

S & Q—	Per 100 Ft.
No. 13	$2.65
No. 14	2.90

For broken boxes—
Add 10%

White Metal Felt Weather Strip—

Protecto—
Full cartons..... 40%
Broken cartons.. 33⅓%

Page 185—

Weather Strips—

Home Comfort—	Per 100 Ft.
500-foot reels	$2.50
100-foot coils	2.60

Servall—

500-foot reels	$1.30
Less	$1.40

Door Bottom Strips—	Per Doz.
32 inch	$2.25
36 inch	2.50
42 inch	2.75

Home—	Per 100 Ft.
¾ inch	$1.65
1 inch	1.95
1¼ inch	2.25

Thermwool—	Per Doz. Pkgs.
No. 25	$0.70
No. 75	1.45

Nu-Felt—
Cartons—Dozen $0.65

Page 186—

All Metal Weatherstrip—
Full tube of 252 feet.

	Per Tube
Style A	$12.60
Style B	8.82

Broken Tubes—	Per Ft.
Style A	$0.05½
Style B	.04

7 foot lengths only carried in stock; other lengths F. S.
F. O. B. Chicago, Ill.

Page 187—

Full Tubes of 252 feet—

	Per Tube
Style D	$13.86
Style T	15.12

Broken Tubes—	Per Ft.
Style D	$0.06
Style T	.06½

7 foot lengths only carried in stock; other lengths F. S.
F. O. B. Chicago, Ill.

Page 188—

Carriage Heaters—
Clark's—
All 30%
F. S.
No. 3D (other than Minn.) 30%

Carriage Heater Coal—
Clarks (Dozen lots)... $0.84
Case lots, per case.... 9.75

Page 189—

Tank Heaters—	Each
With grate	$12.50
Less grate	11.50

Page 190—

Tank Heaters—	Each
Acme—	
No. 2	$5.95
No. 4	7.25
No. 6	9.85
Zero	4.50
No. 1003	6.45
No. 1003G	7.70

Page 191—

Feed Cookers—
S. & Q.—
All 50%

Perfection—	Each
No. 40	$15.40
No. 60	17.80
No. 75	19.75
No. 100	21.35

Caldron—

40 gallon	$6.30
50 gallon	6.75
60 gallon	7.60

Pages 197-199

Gas Ranges—
Single lots..... 40%
6 or more..... 40-5%

Pages 201-203—

Gas Ranges—
Single lots..... 40%
6 or more..... 40-5%

Page 205—

Gas Ranges—
Single lots..... 40%
6 or more..... 40-5%

Page 206—

Washington Gas Ranges—

	Each
No. 3270-5	$47.50
No. B3270-5	46.50

Page 208—

Gas Ranges—	Each
No. 3170-5	$42.50
No. B3170-5	41.50
No. 3100-5	29.50
No. B3100-5	28.50

Page 209—

Gas Cookers—	Each
No. 136-5S	$20.00
No. 136-5	16.00
No. 136S	11.50
No. 136	9.00
No. B136-5S	20.00
No. B136-5	16.00
No. B136S	11.50
No. B136	9.00

Page 210—

Hot Plates—	Each
No. 18	$1.15
No. 28	2.25
No. 38	3.40
No. 39	3.85
No. 2020	2.85
No. 2030	4.50

Gas Hose Cocks—	Per Doz.
No. 76—	
⅜ inch	$1.60
½ inch	1.80
¾ inch	2.75

Page 210—Cont'd

Gas Stove Tubing—	Per Lgth.
2 foot lengths	$0.10
3 foot lengths	.12
4 foot lengths	.16
5 foot lengths	.20
6 foot lengths	.25
8 foot lengths	.32

	Per Ft.
Longer than 8 feet	$0.04

Cloth Insertion Hose—

	Per 100 Ft.
⅜ inch	$4.50
¼ inch	4.80
⅜ inch	5.10
½ inch	5.75

Liberty Gas Lighter—
Per dozen $0.90

Extra Tips—
Per dozen $0.40

Page 211—

Gas Water Heaters—	Each
No. 20	$4.65
No. 25U	6.40
No. 30U	6.85

F. S.
F. O. B. Cleveland, Ohio.

No. 80U	$17.50
20 Gallon	$35.75
30 Gallon	40.75

F. S.

40 Gallon	$50.00

Safety Pilot, $4.00 additional

Page 212—

Restaurant and Cafe Ranges
F. O. B. Quincy, Ill.
Write for prices

Page 214—

Gas Circulator Heaters—

	Each
No. 100H Without Fan	$70.00
No. 100HF With Fan	81.00

Page 215—

Gas Circulator Heaters—

	Each
No. 22A	$18.00
No. 35A	27.00
No. 50A	40.00
No. 70A	50.00
No. 50AF	46.00
No. 70AF	56.00

Page 216—

Space Heaters—
All 40-10%

Pages 217-218—

Space Heaters—
All 33⅓%

Page 224—

Security Gas Furnace—
F. S.
F. O. B. Kansas City, Mo.
Actual freight allowed up to $0.50 Cwt.
All 50%
On all other items write for net prices.

Page 232—
Floor Furnaces—
F. S.
F. O. B. Kansas City, Mo.
Actual freight allowed up to $0.50 Cwt.
All 50%
Automatic Pressure Control
Write for prices.

Page 234—
Basement Unit Heater
F. S.
F. O. B. Kansas City, Mo.
With actual freight allowed up to $0.50 Cwt.
All 50%

Page 236—
Conversion Gas Burner—
F. S.
F. O. B. Kansas City, Mo.
Actual freight allowed up to $0.50 Cwt.
All 40-10%
Types 2 and 3—
Prices quoted on request.

Page 237—
Security Gas Burner—
F. S.
F. O. B. Kansas City, Mo.
With actual freight allowed up to $0.50 Cwt.
All 50%
All Types 2 and 3 write for prices.

Page 238—
Security Gas Burner—
F. S.
F. O. B. Kansas City, Mo.
With actual freight allowed up to $0.50 Cwt.
All 50%
All Types 2 and 3 write for prices.

Page 239—
Security Gas Burner—
F. S.
F. O. B. Kansas City, Mo.
With actual freight allowed up to $0.50 Cwt.
All 50%

Page 240—
Conversion Gas Burner—
F. S.
F. O. B. Kansas City, Mo.
With actual freight allowed up to $0.50 Cwt.
Write for net prices.

Page 242—
Range Oil Burners—
All 50%

Page 243—
Range Oil Burners—
All 50%

Page 246—
Hot Water Heaters—
All 50%

Page 249—
Sterno Three-in-One Combination— Per Doz.
No. 15.....$8.00
Sterno Canned Heat— Per Doz.
No. 4006.....$0.90
No. 4008..... 2.25
Sterno Heat in Tubes—
Per dozen $0.90
Sterno Torch Sets—
Per dozen sets.....$2.00

Page 250—
Pressure Kerogas Ranges—
F. S.
F. O. B. Milwaukee, Wis.
Each
No. 910.....$58.50

Page 251—
Pressure Kerogas Stoves—
F. S.
F. O. B. Milwaukee, Wis.
Each
No. 960R.....$55.00
No. 960L..... 55.00

Page 252—
Pressure Kerogas Stoves—
F. S.
F. O. B. Milwaukee, Wis.
Each
No. 934AR.....$35.25
No. 934AL..... 35.25

Page 253—
Kerosene Water Heaters—
Each
No. 20KW.....$15.00
No 20GK..... 17.50
F. S.
F. O. B. Cleveland, Ohio.
Each
"Twin K. W."..... $30.00

Page 254—
Kerogas Oil Range—
F. S.
F. O. B. Milwaukee, Wis.
Each
No. 9000A.....$49.75

Page 255—
Kerogas Oil Range—
F. S.
F. O. B Milwaukee, Wis.
Each
No. 8560WR.....$36.00
No. 8560WL..... 36.00
No. 8560GR..... 36.00
No. 8560GL..... 36.00

Page 256—
Kerogas Oil Range—
F. S.
F. O. B Milwaukee, Wis.
Each
No. 8360WR.....$29.75
No. 8360WL..... 29.75
No. 8360GR..... 29.75
No. 8360GL..... 29.75

Page 257—
Oil Cook Stoves—
No Shelf— Each
No. 229GI.....$10.10
No. 239GI..... 13.00
No. 249GI..... 15.75
With Shelf— Each
No. 229GIS.....$12.90
No. 239GIS..... 16.15
No. 249GIS..... 19.85

Page 258—
Kerogas Cook Stoves—
No Shelf— Each
No. 1292GI.....$13.25
No. 1293GI..... 16.00
No. 1294GI..... 19.00
With Shelf— Each
No. 1292GLS.....$15.30
No. 1293GLS..... 18.65
No. 1294GLS..... 22.35

Page 259—
High Shelves—
Plain— Each
No. 29GI.....$3.05
No. 39GI..... 3.40
No. 40GI..... 4.10

Page 260—
Oil Ranges and Stoves—
Each
No. 2460DR.....$25.00
No. 2460DL..... 25.00
No. 302D..... 8.70
No. 303D..... 11.15
No. 304D..... 13.80
No. 302DS..... 10.45
No. 303DS..... 13.25
No. 304DS..... 16.30

Page 261—
Oil Ranges
F. S.
F. O. B. Milwaukee, Wis.
Each
No. 2560DR.....$28.25
No. 2560DL..... 28.25
No. 2550DR..... 26.00
No. 2550DL..... 26.00

Page 262—
Oil Ranges and Stoves—
F. S.
F. O. B. Milwaukee, Wis.
Each
No. 5460DR.....$23.75
No. 5460DL..... 23.75
No. 62D..... 8.20
No. 63D..... 10.10
No. 64D..... 12.35
No. 2BG Shelves..... 1.75
No. 3BG Shelves..... 2.10
No. 4BG Shelves..... 2.50

Page 263—
Oil Ranges—
F. S.
F. O. B. Milwaukee, Wis.
Each
No. 5560DR.....$26.75
No. 5560DL..... 26.75
No. 5550DR..... 24.75
No. 5550DL..... 24.75

Page 264—

Blue Flame Oil Stoves—

	Each
No. 032	$4.15
No. 033	5.50
No. 31	3.00
No. 32	3.75
No. 33	5.00

Anchor Wickless Oil Stove—

	Each
No. 30	$1.75

Page 265—

Oil Cooking Stove Parts—

All 50%

Wicks— Per Doz.

No. 20—

Small lots	$2.23
3 dozen lots	2.13
	Per Gross
Gross lots	$23.90

Page 266—

Oil Cooking Stove Parts—

All 50%

Wicks— Per Doz.

No. 30 ..... $3.65

Page 267—

F. S.

Parts for Premier Oil Stoves—

All 50%

Page 268—

Portable Ovens—	Each
No. 667	$4.35
No. 2337	2.35
No. 2332	1.75
No. 1514	2.35
No. 1201	1.10
No. 114	.80
No. 180	60%

Page 269—

Ovens—	Each
No. 60RR	$4.90
No. 16RR	3.45
No. 50W	4.35
No. 22	2.40
No. 10	2.00
No. 120	1.90
No. 102	.80
No. 104	.95
No. 103	.75

Page 270—

Coleman Radiant Heaters—

	Each
No. 5A	$19.00

Page 271—

Coleman Radiant Heaters—

	Each
No. 16	$11.60

Page 273—

Kerogas Duplex Heater—

	Each
No. 622	$18.50

Page 274—

Oil Heaters—	Each
No. 118X	$4.25
No. 30K	5.40
No. 75K	7.15

Page 275—

Coleman Camp Stoves—

	Each
Model No. 2F	$8.30
Model No. 6F	4.15
Model No. 9F	6.30

High Stands—	Each
No. 10	$1.35

Lanterns—	Each
No. 242JR	$4.15

Page 276—

Parts for Coleman Camp Stoves—

F. S.
F. O. B. Chicago, Ill.

All Less 33⅓%

Siphons—	Each
No. 630	$0.40

Page 278—

Room Heater—	Each
Model F	$18.50

Page 279—

Oil Burning Room Heater—

	Each
Model D	$30.25

Page 280—

Hot-Blast Oil-Burning Super Furnace—

All 50%

Page 282—

Furnace Burner—	Each
With Manual Control	$27.50

F. O. B. Orange City, Iowa.

With Electrical Thermostatic Control	$45.00

Page 284—

Oil Burners—

Single lots	33⅓%
3 or more	40%

Page 286—

Fuel Saver, Humidifier and Air Washer—

All Less 50%

Page 288—

Automatic Humidifier and Air Washer—

All Less 50%

Page 289—

Tank Heaters—	Each
No. 11	$16.00
No. 12	17.30

Page 290—

Tank Heaters—	Each
No. 13	$9.00